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Magic and Divination in the Middle Ages

Texts and Techniques in the
Islamic and Christian Worlds



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CONTENTS

Preface	ix–x
Acknowledgements	xi
I Talismans: magic as science? Necromancy among the Seven Liberal Arts <i>An unpublished talk given to the London Medieval Society in 1994 and at a conference in memory of Donald Hill in 1995</i>	1–15
II Adelard, Ergaphalau and the science of the stars <i>Warburg Institute Surveys and Texts 14. Adelard of Bath: An English Scientist and Arabist of the Early Twelfth Century, ed. C. Burnett. London: The Warburg Institute, 1987</i>	133–145
III Arabic, Greek, and Latin works on astrological magic attributed to Aristotle <i>Warburg Institute Surveys and Texts 11. Pseudo-Aristotle in the Middle Ages, eds. J. Kraye, W.F. Ryan and C.B. Schmitt. London: The Warburg Institute, 1987</i>	84–96
IV The translating activity in medieval Spain <i>Handbuch der Orientalistik 12. The Legacy of Muslim Spain, ed. S.K. Jayyusi. Leiden: E.J. Brill, 1992</i>	1036–1058
V The legend of the three Hermes and Abū Ma‘shar’s <i>Kitāb al-Ulūf</i> in the Latin Middle Ages <i>Journal of the Warburg and Courtauld Institutes 39. London, 1976</i>	231–234
VI Hermann of Carinthia and the <i>kitāb al-Isāmātīs</i> : further evidence for the transmission of Hermetic magic <i>Journal of the Warburg and Courtauld Institutes 44. London, 1981</i>	167–169

- (VII) The *kitāb al-Iṣṭamāṭīs* and a manuscript of astrological and astronomical works from Barcelona (Biblioteca de Catalunya, 634) 1–19
Revision of the unpublished original English version of 'El kitāb al-Iṣṭamāṭīs i un manuscrit Barceloní d'obres astrològiques i astronòmiques', an article published in Catalan in Llengua i literatura 2. 1987, pp. 431–451
- VIII Scandinavian runes in a Latin magical treatise 419–429
Speculum: A Journal of Medieval Studies 58, no. 2. Cambridge, Mass., 1983 (with postscript by Marie Stoklund)
- IX The Conte de Sarzana magical manuscript 1–7
An unpublished description of a manuscript of Latin magical texts written in 1501 and now in the possession of the Marquis of Sarzana in Sicily
- (X) The earliest chiromancy in the West 189–195
Journal of the Warburg and Courtauld Institutes 50. London, 1987
- Chiromancy: supplement. The principal Latin texts on chiromancy extant in the Middle Ages 1–29
First publication
- (XI) The Eadwine Psalter and the western tradition of the onomancy in Pseudo-Aristotle's *Secret of Secrets* 143–167
Archives d'histoire doctrinale et littéraire du moyen âge 55. Paris, 1988
- XII Scapulimancy (divination by the shoulder blades of sheep) 1–14
First publication
- XIII Arabic divinatory texts and Celtic folklore: a comment on the theory and practice of scapulimancy in Western Europe 31–42
Cambridge Medieval Celtic Studies 6. Cambridge, 1983
- XIV Divination from sheep's shoulder blades: a reflection on Andalusian society 29–36
Cultures in Contact in Medieval Spain: Historical and Literary Essays Presented to L.P. Harvey, eds. D. Hook and B. Taylor. London: King's College, 1990 42–45

XV	An Islamic divinatory technique in medieval Spain: An edition of the earliest Latin Scapulimancy (Oxford, Bodleian Library, MS Canon. Misc. 396, fols 108r–112r) with translation <i>The Arab Influence in Medieval Europe</i> , eds. D.A. Agius and R. Hitchcock. Reading: Ithaca Press, 1994	111–135
XVI	The scapulimancy of Giorgio Anselmi's <i>Divinum opus de magia disciplina</i> <i>Euphrosyne</i> 23. Lisbon, 1995	63–79
XVII	What is the <i>Experimentarius</i> of Bernardus Silvestris? A preliminary survey of the material <i>Archives d'histoire doctrinale et littéraire du moyen âge</i> 44. Paris, 1977	79–125
XVIII	A note on two astrological fortune-telling tables <i>Revue d'histoire des textes</i> 18. Paris, 1988	257–262
XIX	The astrologer's assay of the alchemist: early references to alchemy in Arabic and Latin Texts <i>Ambix</i> 39, no. 3. Cambridge, 1992	103–109
XX	An apocryphal letter from the Arabic philosopher al-Kindī to Theodore, Frederick II's astrologer, concerning Gog and Magog, the enclosed nations, and the scourge of the Mongols <i>Viator</i> 15. Berkeley, Calif., 1984	151–167
	Addenda et corrigenda	1–7
	Index nominum	1–11
	Index manuscriptorum	1–4
	Index initiorum	1–3

This volume contains xii + 370 pages

PUBLISHER'S NOTE

The articles in this volume, as in all others in the Collected Studies Series, have not been given a new, continuous pagination. In order to avoid confusion, and to facilitate their use where these same studies have been referred to elsewhere, the original pagination has been maintained wherever possible.

Each article has been given a Roman number in order of appearance, as listed in the Contents. This number is repeated on each page and is quoted in the index entries.

Corrections and additions noted in the Addenda et Corrigenda have been marked by an asterisk in the margin corresponding to the relevant text to be amended.

PREFACE

The articles included in this volume aim to present the reader with raw materials for the study of magic and divination in the Middle Ages, in the form of texts, catalogues of manuscripts in which the texts occur, and explanations of the techniques described in the texts. More theoretical discussions, such as the nature of medieval magic, the role of magic and divination in society, and the arguments for and against magical and divinatory practices, are not broached. Astrology is not properly divination, and is such a wide field in itself that it has not been included in this volume, except incidentally.

The first nine articles are on magic. **I** describes the terminology of talismanic magic (or necromancy) in the Middle Ages. **II** introduces a Latin division of science of unknown date and authorship which gives prominence to the magical sciences, including the two divisions of the science of talismans. **III** and **IV** trace the history of talismanic texts from the Classical period through the Arabic world to the Latin Middle Ages. **IV** shows how an interest in acquiring the 'secret knowledge' of magic and divination was a catalyst for the translating activity from Arabic into Latin in twelfth-century Spain. **V** deals with the legend of the transmission of this secret science through a succession of three Hermes, and **VI–VIII** treat different aspects of one of the earliest and most important Arabic Hermetic texts: the *kitāb al-Iṣṭamāṭīs*. Finally **IX** shows how magical texts translated in the twelfth and thirteenth centuries were still being copied and used in the early sixteenth century.

The next section deals with different forms of divination current in the Middle Ages—**X** with chiromancy, **XI** with onomancy, **XII–XVI** with scapulimancy, **XVII–XVIII** with geomancy and fortune-telling. Two articles on more miscellaneous topics conclude the volume: **XIX** tells one when to consult an alchemist, or (if you are the alchemist yourself) when to commence the Work, and, finally, **XX** deals with an apocryphal letter foretelling the advance of the Mongols.

Articles **III**, **VII**, **VIII**, **X**, **XI**, **XV**, **XVII**, **XVIII**, **XIX** and **XX** include editions, and **XI**, **XIII** and **XVII** include catalogues of texts on the subjects concerned, and the manuscripts in which these texts are found.

Previously unpublished editions (with English translations) have been added to **X**, and a revised English translation of an Arabic text is given in **XII**. Two articles have not been published before (**I** and **IX**), and one (**VII**) is republished in English in a considerably revised form.

These articles could not have been written without the resources of the Warburg Institute, and the inspiration of A. A. Barb, D. P. Walker and Frances Yates, and of many scholars who have passed through its portals. The importance of looking at the Arabic background to Medieval European culture was first brought home to me by Peter Dronke and the late Marie-Thérèse d'Alverny, who set me on the tracks of Hermann of Carinthia and Adelard of Bath. Several of these articles were written as by-products of my investigation into the Latin works attributed to Ya'qūb b. Ishāq al-Kindī, which I started when I was a guest of the CNRS *équipe* 'Histoire des sciences et de la philosophie arabes' directed by Jean Jolivet in Paris in 1975. David Pingree has helped me in many ways, and is a living proof that prolonged exposure to magic does not corrupt one's mind and personality. Alfons Barb once wrote that 'a humanist must never close his eyes to the all-too-human. There are few human activities in the history of which an unbroken chain of tradition from the remotest antiquity to our days can be traced more clearly and conclusively than in the Magic Arts' ('The Survival of Magic Arts' in *Paganism and Christianity in the Fourth Century*, ed. A. D. Momigliano, Oxford, 1963, p. 125). One may add that there are few genres of literature in which one obtains such intimate glimpses into the everyday life and concerns of human beings as in magic and divination.

Charles Burnett
Warburg Institute
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Talismans: Magic as Science? Necromancy among the Seven Liberal Arts¹

In the Middle Ages, as everyone knows, Philosophy was divided into the Seven Liberal Arts—Grammar, Rhetoric, Dialectic, Arithmetic, Music, Geometry and Astronomy. They are sculpted on the Portail Royal of Chartres Cathedral and provide the framework of Thierry of Chartres' magnificent collection of all that was needed for becoming a philosopher in the mid-twelfth century: the *Heptateuchon*.² Surely, at least until the Aristotelian scheme was established in the thirteenth century, there could be no argument about the contents of philosophy? And yet there was. Petrus Alfonsi, a Jewish convert to Christianity, who was active translating Arabic scientific texts and promoting the study of astronomy in the first decades of the twelfth century, considered rather that the first six arts are dialectic, arithmetic, geometry, medicine, music, and astronomy, but, as for the seventh:

those who admit the possibility of prophecies say that it is necromancy; those who do not, say it is philosophy... and those who do not study philosophy say that it is grammar.³

This quotation is from the highly respectable and popular work 'on the education of clerks' (*Disciplina clericalis*) which is a collection of edifying stories and recommendations for polite conduct. We come across necromancy again later in the century, in a work devoted specifically to the description of the parts of knowledge: Dominicus

¹ This paper was originally presented as a talk and the *viva voce* tone has been preserved here. Hence annotation has been kept to a minimum and no attempt has been made to be exhaustive in the treatment of the subject of necromancy. For further, and largely complementary information, I recommend the fine overview of 'necromancy' provided in chapter 7 of Richard Kieckhefer's *Magic in the Middle Ages*, Cambridge, 1989, pp. 151–75.

² For the context of Thierry's *Heptateuchon*, see E. Jeaneau, "*Lectio philosophorum*", Amsterdam, 1973.

³ *Disciplina clericalis I: Lateinischer Text*, eds Alfons Hilka and Werner Söderhjelm, *Acta societatis scientiarum Fennicae*, 38.4, Helsinki, 1911, p. 10: 'Hae sunt artes: dialectica, arithmetica, geometria, phisica, musica, astronomia. De septima vero diversae plurimorum sunt sententiae quatenam sit: philosophi qui prophetias sectantur, aiunt nigromantiam esse septimam. Aliqui ex illis videlicet qui prophetiis non credunt, philosophiam volunt esse septimam... Quidam qui philosophiae non student, grammaticam esse affirmant'. Petrus refers further to the art of prophecy, in citing from 'Plato in libro de prophetiis' a story concerning a wise-man who can prophecy into the future, called Marianus, who is inspired by a 'prophetic spiritus' (*ibid.*, pp. 34–5).

Gundissalinus's *De divisione philosophiae*. This work was a harbinger of the new Aristotelian arrangement of science, and was often attached to the Aristotelian corpus in the university manuscripts of the thirteenth century. Under the general category ('scientia universalis') of 'natural science' Gundissalinus includes eight divisions: medicine, (astrological) judgements, nigromancy according to physics ('nigromancia secundum physicam'), talismans, agriculture, navigation, optics and alchemy.⁴

This division, Gundissalinus took from an earlier account of the natural development of human knowledge, an anonymous translation of an anonymous Arabic text called 'On the rise of the sciences' (*De ortu scientiarum*).⁵

Going back a hundred years, one finds that the pioneering translator of Arabic medical texts into Latin, Constantine the African, is said to have been educated in 'grammar, dialectic, rhetoric, geometry, arithmetic, mathematics (!), astronomy, necromancy, music, and physics.'⁶

It seems strange that in such respectable sources 'the conjuring up of the dead in order to prophecy' (which is the literal meaning of 'necromancy') should be so well-integrated into the parts of philosophy. But what is really meant by 'necromancy' and how did it relate to other sciences? The term was already used in Late Antiquity, by Augustine in *De Civitate Dei* and Jerome in his commentary on *Ezechiel*, and received its correct etymology from Isidore of Seville who, in his *Etymologiae* defined 'necromancers' as 'those by whose incantations the dead, having been resuscitated, seem to divine the future and reply to questions put to them.

⁴ Dominicus Gundissalinus, *De divisione philosophiae*, ed. L. Baur, *Beiträge zur Geschichte der Philosophie des Mittelalters*, Münster-in-W., IV.2–3, Münster 1903, p. 20: 'scientianaturalis universalis est quia octo sciencie sub ea continentur: scilicet sciencia de medicina, sciencia de iudiciis (*corrected from* Baur's 'indiciis'), sciencia de nigromantia secundum physicam, sciencia de ymaginibus, sciencia de agricultura, sciencia de navigatione, sciencia de speculis, sciencia de alquimia, que est sciencia de conversione rerum in alias species, et hec octo sunt species naturalis sciencie'.

⁵ *De ortu scientiarum*, ed. C. Baeumker, *Beiträge zur Geschichte der Philosophie des Mittelalters*, 19, Münster, 1918, p. 20: 'Partes autem huius scientiae [sc. naturalis] secundum quod dixerunt sapientes primi octo sunt, scilicet sciencia de iudiciis, sciencia de medicina, sciencia de nigromantia secundum physicam, sciencia de imaginibus, sciencia de agricultura, sciencia de navigando, sciencia de alkimia quae est sciencia de conversione rerum in alias species, sciencia de speculis'.

⁶ H. Bloch, *Monte Cassino in the Middle Ages*, Rome and Cambridge, Ma., 1986, 3 vols, I, p. 127: 'Babiloniam petiit, in qua grammatica, dialectica, rethorica, geometrica, arithmetica, mathematica, astronomia, necromantia, musica, phisicaque Chaldeorum, Arabum, Persarum, Saracenorum plenissime eruditus est' (from Petrus Diaconus, *De viris illustribus*). In the version of this text which appears in the *Chronica Monasterii Casinensis* (quoted *ibid.*) the word 'necromancy' appears to have been corrupted, or deliberately changed, into 'nec non'.

For 'nekros' in Greek is 'dead', 'manteia' is 'divination'.⁷ In the Middle Ages, however, this strict sense of 'necromantia' was often lost sight of; the word became corrupted into 'nigromantia', and was used to translate the common Arabic word for 'magic'—'sihr'.⁸ For the understanding of the term in the Middle Ages we can do no better than to turn to the most authoritative book on the divisions of magic and astrology in the Middle Ages—Albertus Magnus's *Speculum astronomiae* of the mid-13th century—the aim of which was to sort out which books in this area were licit and which illicit.⁹

Albertus understands 'necromancy' to apply to certain kinds of magic using *images* or 'talismans'. He adds that other forms of divination or magic are 'coterminous' with necromancy, such as geomancy, hydromancy, aerimancy, pyromancy and chiromancy, but it is on the talismanic art that he concentrates. He distinguishes three varieties of magic, of which the first two are 'necromantic'. The first is abominable. This employs suffumigations and invocations. The demons, however, are not compelled by these ritual bindings, but God permits them to deceive the magicians. The second is less reprehensible, but still detestable. It employs characters, names and exorcisms and is to be avoided because beneath the cover of names in foreign languages may lurk what is contrary to the Catholic faith. The third type, which does not allow suffumigations, nor admit exorcisms and characters, relies on power

⁷ Isidore, *Etymologiae*, ed. W. M. Lindsay, Oxford, 1911, VII, 9, 11: 'Necromantii sunt, quorum precantationibus videntur resuscitati mortui divinare, et ad interrogata respondere. Νεκρός enim Graece mortuus, μαντεία divination nuncupatur'. Augustine and Jerome are the only other ancient authorities for the term given in the CD-ROM Cetedoc Library of Christian Latin Texts, q.v. For the context of this form of divination, which is based on the belief that the spirits of the dead hovered in the atmosphere, see especially Theodor Hopfner, *Griechisch-Ägyptischer Offenbarungszauber: seine Methoden*, 2nd edition, Amsterdam, 1983.

⁸ For a confused etymology see Thaddeus of Parma, *Super theorica planetarum Gerardi*, cited in G. Federici Vescovini, 'La Classificazione des mathématiques d'après le prologue de l'*Expositio super Theorica Planetarum* de l'Averroïste Thaddée de Parme (Bologne, 1318)', in *Manuels, programmes de cours et techniques d'enseignement dans les universités médiévales*, ed. J. Hamesse, Louvain-la-Neuve, 1994, pp. 138–82 (177): 'Nigromantia dicitur a nigron, quod sit mors et fit de favillis mortuorum, vel quia mors et perditio anime est studere in ipsa, vel quia homines in ipsa studentes et per ipsam volentes operari debent habere passiones mortificatas'. For 'nigromantia' being equivalent to 'sihr' see Hugo of Santalla's translation of the *Liber Aristotilis* (ed. Burnett and D. Pingree, in press) IV, 23, 3 and *Picatrix*, ed. Pingree, London, 1986, *passim*. Kieckhefer, *Magic in the Middle Ages* (n. 1 above), p. 152, suggests that the conjuring of demons came to be known as necromancy because, since in the Middle Ages it was assumed that the dead could not be brought to life, 'demons took on the appearance of deceased persons and pretended to be those persons'.

⁹ I use the edition and translation of Paola Zambelli, *The Speculum Astronomiae and its Enigma*, Boston Studies in the Philosophy of Science, 135, Dordrecht, 1992, together with the earlier edition by S. Caroti, M. Pereira, S. Zamponi and P. Zambelli, Pisa, 1977, which includes a full apparatus.

drawn from the celestial spheres. The element which distinguishes the necromantic types from the non-necromantic, would seem, therefore, to be the presense of exorcisms, or the summoning of spirits, in the former.

A parallel division of necromantic and non-necromantic magic is found in the twelfth-century division of the sciences known from its incipit as 'Ut testatur Ergaphalau'. Having divided the science of the macrocosm into 'astronomy' and 'astrology' (though, typically, using the terms in the opposite sense to how we use them now), the unknown writer describes 'astronomia' (i.e., astrology) as follows:

Astrology is the science which, by running through the movements of the signs of the zodiac, of the planets and the celestial circles with the help of instruments, indicates the changes of lower substances in an absolute way. One kind is called primary and has to do with signification, the other, 'changing'... The changing kind is called that of images,¹⁰ which by using a form (or image; *forma*), following the movement of the superior bodies, either preserves lower things in good fortune¹¹ or, by producing a misfortune, brings harm to them. It has twelve species. One is called 'of the questioner', which, conceiving the form (image) of what is to be changed in a talisman (*imago*), brings about a change in the questioner according to his wish. Another is called 'of possessing', which teaches how to make a talisman for increasing or harming someone's possessions. And so on, according to the twelve astrological places.¹²

The science of talismans, the anonymous author continues, is also divided into 'pure' and 'exorcising'. Here we find Albertus's division. The pure is what teaches talismans to be struck without incantations and exorcisms, but only by inspecting the state of the higher bodies. 'Exorcising' is what teaches how to include spirits as collaborators in making the talismans, by using exorcisms and incantations.

Petrus Alfonsi, in another popular work of his—the *Dialogue* between his old Jewish self, Moyses, and his new Christian self, Petrus—also divides necromancy into species:

First you should know that the art which is called 'nigromancia' has nine parts. Of these the first four deal with the four elements <showing> how we can operate with them physically,¹³ but the five remaining ones

¹⁰ The author uses adjectives formed from, respectively, the Latin and Greek words for 'image'—'imaginaria sive idealis'; the term 'imago', as we have seen, is the standard Latin word for 'talisman', and will be translated as such in the rest of this passage.

¹¹ Reading 'inferiora aut in fortuna conservat'.

¹² See the edition of 'Ut testatur Ergaphalau' in Burnett, 'Adelard, Ergaphalau and the Science of the Stars', in *Adelard of Bath: An English Scientist and Arabist of the Early Twelfth Century*, ed. C. Burnett, London, 1987, [article II below], pp. 143–4.

¹³ This is clearly the 'nigromancia secundum phisicum' of Gundissalinus.

<show> how one cannot operate with them except through the invocation of bad spirits ('maligni spiritus'). These bad spirits are called 'devils' by men.¹⁴

These bad spirits ('eorum qui in nichromantica arte operantur') dwell below the firmament,¹⁵ whereas the blessed souls of the dead reside in 'heaven'. Thus, according to Petrus, the story of the woman bringing back Samuel from the dead by necromancy can only be true in the sense that Samuel was not in heaven but under the jurisdiction of the devil in Hell; for the souls in heaven are out of reach of the spirits.¹⁶ Miraculous cures are performed not by magic but by the power of God.¹⁷ Then, Petrus cites from necromantic authorities themselves, which describe necromancy's limitations:

Moreover in the necromantic art it is read that a leper is never truly cured by it. In respect to the blind—at least, those who are blind from birth—physics is contrary to [necromancy], because medicine *can* bring light to them. Assitha the Magus bears witness that light is never truly restored to them through the necromantic art.

Moyses: That may be. But what do you say about the dead, when the same Assitha claims that a man can revive them and speak with them, and shows the way to do it in his book, and on the other hand <what do you say about> what is read in the book of Kings, as we have said, of how Samuel was revived through a woman with a spirit?

Petrus: It is certainly true that Assitha bears witness as you say, but there is a great distance between the work of God and that which is done through the art of magic ('magicam artem'), in respect to the resurrection of the dead. For the dead, when raised to life by a magician ('magus'), cannot walk further than the length of their shadow, but, when they reach that point, they fall to earth dead again.¹⁸

It is possible that the differentiation in the *De ortu scientiarum* and Gundissalinus's *De divisione philosophiae* between 'necromancy according to physics' and 'talismans', shows the same distinction between what is carried on with the help of spirits, and what uses talismans without spirits. 'Physics' here presumably refers to the 'physical' arguments whereby the upper world 'moves' creatures of the lower world.

¹⁴ *Der Dialog des Petrus Alfonsi: Seine Überlieferung im Druck und in den Handschriften. Textedition*, ed. Klaus-Peter Mieth, Inaugural-Dissertation, Freie Universität, Berlin, 1982, p. 108.

¹⁵ *Ibid.*, p. 112.23–6.

¹⁶ *Ibid.*, pp. 112.31–113.12.

¹⁷ *Ibid.*, p. 116.28.

¹⁸ *Ibid.*, pp. 117. All this proves that Jesus was not a magician. But even Christ's miracles can be explained physically; e.g., that he rose to heaven because his body was made out of the most subtle materials.

The works that Albertus describes as belonging to his third, licit species of talismans are Thābit b. Qurra's *De imaginibus* and 'Ptolemy's' work of the same name. 'Ptolemy's' *De imaginibus*,¹⁹ does, indeed, turn out to be a text without demons or fumigations, though it does include incantations, but these are addressed to the objects of the lower world, not to celestial powers. It tells one how to make talismans belonging to each of the decans of the twelve signs of the zodiac. To take an example:

When you want to bind robbers so that they do not enter the house, you will design ('figurabis') an image of a man in bronze, when the first decan of Aries is rising. After this you will say: 'I bind every robber from this house through this image'. Put it in the middle of the house and a robber will not enter it.²⁰

The *De imaginibus* of Thābit, however, exists in two Latin versions, which overlap in their subject-matter but are significantly different from each other. The first version is by Adelard of Bath, who translated Arabic mathematical and astrological works at the beginning of the twelfth century. The second is by 'Magister John of Seville and Limia', a mysterious figure working in Spain and Portugal in the second quarter of the same century.²¹ The most conspicuous difference between the two versions is that Adelard's includes the prayers to spirits, whereas in John's text all mention of spirits is absent. This difference is reflected in Albertus's classification in which, as we can see from the incipits Albertus includes, the licit text of Thābit on talismans (*De imaginibus*)—i.e., the one in the third category—is John's, whereas Adelard's text is included in a long list of illicit 'necromantic' texts which Albertus sets out to warn people away from them. Unfortunately we cannot yet compare either version with an original Arabic text of Thābit's work. However, from what we know of Thābit in other sources, it is most likely that he would have included prayers to the spirits of the planets and other spirits. For he is the best-known representative of the intellectual branch

¹⁹ See D. Pingree, 'The Diffusion of Arabic Magical Texts in Western Europe', in *La diffusione delle scienze islamiche nel medio evo europeo*, Convegno internazionale promosso dall'Accademia nazionale dei Lincei, Rome, 1987, pp. 57–102 (75–6). The ascription to Ptolemy is false; there is no evidence even of a Greek text of this sort.

²⁰ Paris, Bibliothèque nationale, lat. 16204, p. 539: 'Cum volueris ligare latrones ut non intrent domum, figurabis .o. (= *imaginem*) viri ex ere cum ascendit prima facies Alhamel. Post hec dices: "alligo omnem latronem ab hac domo per hanc .o." Pone eam in medio domus et non introibit in eam latro.'

²¹ An edition of Adelard's text—*Liber prestigiorum Thebidis*—is in preparation by the present author. Two redactions of John of Seville and Limia's text have been edited by F. J. Carmody in *The Astronomical Works of Thabit b. Qurra*, Berkeley and Los Angeles, 1960.

of the Sabaeans in Baghdad in the ninth century.²² The Sabaeans came from the Syriac speaking area of Ḥarrān, and developed a religious philosophy which involved a curious blend of Aristotle's natural science and Hermetic magic. They had built temples for each of the seven planets, and believed that there were powerful spirits residing in each of the planets, whose names they passed on in their esoteric literature along with the prayers to be addressed to these spirits. Thābit, as well as translating Greek scientific texts into Arabic, also wrote several texts on the Sabaeon philosophy-religion, and was regarded by the Arabs as an expert especially on talismans.

We know that an Arabic text on talismans by Thābit was in Muslim Spain (al-Andalus) in the eleventh century, since phrases from its opening sentence are quoted in *Picatrix*:

Thābit b. Qurra, in the book that he composed about talismans, says that 'The noblest part of astronomy is the science of talismans', and adds: 'it is said that no body has life which hasn't a soul'.²³

This is presumably the text translated by Adelard and John. For the opening in John of Seville and Limia's translation runs as follows:

Thābit said that Aristotle said that he who has read philosophy and geometry and every science, but is ignorant of the science of the stars, is unable to do anything, because the science of talismans is more worthy than geometry and higher than philosophy. The Philosopher (Aristotle) said in the second treatise of his book [i.e., the *De anima*] that, just as there is no movement for a body that lacks a soul, nor life to an animate body except through food which is digested and suited to the body's nature,²⁴ so there is no light of wisdom when the science of the stars has been left out. And just as the spirit cannot live except by the food which is suited to the body's nature, so there is no root of wisdom for him who lacks philosophy (or the science of the stars), nor is there the light of geometry when he lacks the science of the stars; and the height and summit of the science of the stars is the science of talismans.²⁵

²² The exact nature of the beliefs of the Sabaeans, the Greek texts they had available, and the works they composed, are not yet clear, and it is possible that certain Hermetic and astrological beliefs were foisted upon them. [For the account given here see the bibliography in **article III** below].

²³ *Picatrix*, I.v.36, p. 23: '...Thebit ben Corat in libro quem composuit De ymaginibus, qui sic ait: sciencia ymaginum est nobilior pars astronomie. Et subdit: corpus caret vita deficiente spiritu'.

²⁴ This statement has only a general equivalent in the first chapter of the second book of Aristotle's *De anima*.

²⁵ *De imaginibus*, 1-2, ed. Carmody, p. 180: 'Dixit Thebit Bencorah: Dixit Aristoteles: Qui philosophiam et geometriam omnemque scientiam legerit et ab astronomia vacuus fuerit, erit occupatus et vacuus, quia dignior geometria et altior philosophia est imaginum scientia. Et iam dixit Philosophus (v.l. + Aristoteles) in secundo tractatu sui libri quia sicut non est motus corpori anima carenti nec vita

John of Seville and Limia takes up the theme that the knowledge of the theory of astronomy without the skill to put that knowledge in effect is useless, in his preface to the translation. This preface places the science of talismans in its rightful position in the hierarchy of the arts and justifies its study through the telling of an experience which is allegedly that of the translator himself.²⁶

Having read through the other books of astronomy, e.g., of the courses of the planets and others which seemed to be relevant to this art, and when I had obtained none of the things for the sake of which I had sought *Hispanae partes*, for several days I lay wasting away and affected by such aversion that, sedating my desperation on being now thought to be halting among the experts of this science, I threw from me the worry of such labour undertaken in vain. For I saw that I had laboured in this for too long a time, and, moreover, that I had expended not a little of my own resources in this—since I was making no profit from elsewhere—especially when, placed amongst wild races, I was living without help far from the domestic <comforts of people having> complete faith towards God. It is not necessary for me to tell you, wise as you are, what state of mind I was in.

The Master, seeing me in a bad way because of such worry and solicitously enquiring what was wrong, when he had heard about the weariness of my soul, seemed to smile. Finally, looking through the volumes of his books, he produced a small book written in Arabic from his bookcase, in which several books of his were enclosed. When I was demanding from him incessantly with an eager mind what it contained, he started to say this about the book:

‘Do not believe, dearest friend, that all those who study this science can arrive at the heart [i.e., esoteric knowledge] of it. For there are some who know the courses and conjunctions of planets and also of the signs, and contemplate in their minds the machine of almost the whole sky, to such an extent that they think nothing is lacking to them of this art. But, to confess the truth, their distance from it is as great as that of him who has never tasted anything of it. For our wise men, considering the nature and significations of the planets more subtly, seeing them now to be for the good, now for evil, from the hugeness of the capacity of their intelligence have excerpted certain proofs and examples, as it were, and have made

animato corpori nisi per cibum quo diriguntur (v.l. digeruntur) et aptantur eius nature, ita non est lumen sapientie cum astronomia evacuata fuerit. Et quemadmodum spiritus non poterit subsistere nisi per cibum quo aptantur nature corporis, ita non est radix scientie apud eum qui philosophia caruerit (v.l. apud eum qui caruerit astronomia) nec est lumen geometrie cum vacua fuerit astronomia; sublimitas autem et altitudo astronomie est imaginum scientia.’ (Carmody’s Version I, with variant readings from Version J).

²⁶ This preface is edited and translated in full in Burnett, ‘Magister Iohannes Hispanensis et Limiensis’ and Qusṭā ibn Lūqā’s *De differentia spiritus et animae*: a Portuguese Contribution to the Arts Curriculum?, in *Mediævalia*, 7–8, 1996 (Festschrift for J.-M. da Cruz Pontes), pp. 221–68.

them the sum of this whole art—composing a book which they have called ‘on talismans’. In this is contained how the talismans can help or hinder the wise man or another person (as will be shown in what follows). Hence also certain people under the pretence of religion, judge this science to be, as it were, shameful, not noticing that God has bestowed this utility of His world rather on His servants; and, for the punishment of ill-doers and the praise of the just, He has made the art to be acknowledged amongst His works as wonderful beyond all others. But perhaps someone may object, saying among other things that it is not the will of God that anyone should operate evil. To which I reply: “Do you not know that an axe is made for splitting wood? Surely, if anyone kills a man with the axe, with a wicked mind, the use of an axe should not for this reason be blamed or rejected as if condemned? This is not the case, I say”. But because I have replied sufficiently to these petty objections of our adversaries, let us turn to other things.’

This book, then, I obtained from him, with the help of God’s Spirit—a book which no Latin other than a certain Auriocenus, who once obtained a part of it, ever had. If anyone, therefore, paying attention to this, wishes to know it, he should only make every effort to have (of all things) this book, i.e., a book on talismans. For through it, if he pays careful attention, he will without doubt obtain the sum of all this teaching. Pay attention then, whoever you are, and with a careful mind, think about what should be read in it, and consider diligently the significations of the planets both for good and for evil.

I am tempted to see the previous, partial translation mentioned here, as that of Adelard. The description of it as being ‘partial’ is appropriate, and Auriocenus could possibly be a corruption of Angligena or Anglicanus.²⁷ What John does not say is that he has omitted all mention of spirits. Maybe this is implied in his contrast of Christianity to the religion of the ‘wild races’ he finds himself amongst. In this respect, as I have said, Adelard’s translation is probably more faithful to the original Arabic.

Adelard might have followed the advice of Petrus Alfonsi and studied necromancy, for, in his *Quaestiones naturales* he mentions taking lessons, along with his nephew, with an old woman magician (‘anus praestigiosa’) with the intention of learning how to perform magical incantations, since he was ‘most studious of incantations’ (‘incantationibus studiosus’).²⁸ The ‘*Liber praestigiorum*’ of Thābit following Ptolemy and Hermes’ is the title he adopts for his own version of Thābit, probably taking up Isidore of Seville’s description of ‘praestigia’ as that which Mercury (i.e. Hermes) invented, so called because it dazzled

²⁷ R. Lemay, ‘The True Place of Astrology in Medieval Science and Philosophy: Towards a Definition’, in *Astrology, Science and Society*, ed. P. Curry, Woodbridge, 1987, pp. 57–73 (70), interprets ‘Auriocenus’ as ‘Antiochenus’, but still believes that the reference is to Adelard, who visited Antioch.

²⁸ Adelard of Bath, *Quaestiones naturales*, ed. M. Müller, *Beiträge zur Geschichte der Philosophie des Mittelalters*, Münster-in-W., 31.2, 1934, pp. 53 and 54.

(*praestringere*) the eyes.²⁹ As a representative of the necromantic art I would like to look at its contents more closely.

In Adelard's translation the necessity of knowing the science of the stars (both astronomy and astrology) before going on to the higher science of talismans is spelt out. First Adelard refers to astronomy. He criticizes those who believe in the advance of the vernal point in respect to the constellations of 8 degrees in one direction and then a retreat of the same number of degrees in the other, and favours what seems to us to be the impossible view—but one found in the Indian system known to the Arabs—that there is no movement of the vernal point (precession of the equinoxes). This is so that the 'astrological' constellation will be the same as the visible constellation. Thus creatures in the lower world will obey those in the higher: the individual lion will obey the zodiacal lion, the individual scorpion will obey the zodiacal scorpion etc. 'without any sign of advance and retreat'.

Adelard then goes through the astrological knowledge that is necessary: the planets' houses, exaltations, depressions, and nodal points; the fortunate and unfortunate aspects, the bright and shadowy degrees, etc.³⁰ Adelard also refers to two other texts on talismans, including 'Ptolemy's *De imaginibus*, which he evidently knew at first hand. The practitioner should not be preoccupied by any worries and should be free from other occupations. Moreover he should act with confidence. For 'lack of hope is the mother of hesitation, and hesitation is the mother of ineffectiveness'.³¹

The importance of this astrological training becomes apparent in the next section of Adelard's treatise which gives rules for the casting of any talisman:

1) The bodily parts of the talisman are to be sculpted at the astrologically appropriate time: the eyes when the Moon is applying to the Sun in a fortunate aspect and the Moon is in one of its dignities and free from a malefic; the right ear when the Sun or Venus is applying to Saturn in one of its dignities, etc.

2) The lord of the ascendant should be a benefic, in a fortunate place, and free from a malefic, etc.

²⁹ Isidore of Seville, *Etymologiae*, VIII, 9, 33: 'Praestigium vero Mercurius primus dicitur invenisse. Dictum autem praestigium, quod praestringat aciem oculorum'.

³⁰ These are the subject of Abū Ma'shar's *Abbreviation of the Introduction to Astrology*, which Adelard translated under the title 'Ysagoga minor' and to which he refers at the end of the *Liber prestigiorum*.

³¹ *Liber prestigiorum*, 12: 'Desperatio autem mutatio, mutatio inefficacie mater est'. (The text is quoted according to the sentence-number of the edition in progress).

3) The client must have a serious intent when he poses his question, and the horoscope of the hour of the question must be accurately determined. This preliminary procedure will enable one to determine whether it is worth going on with the operation or not. (One determines, in particular, whether the horoscope is suitable to the topic concerned).

4) It is also helpful if the birth-horoscope of the client is known, because this adds weight to the testimony of the horoscope of the hour of the question.

Following these general rules Adelard gives instructions for making talismans, divided into two groups (arranged as two short books), the first is for gaining love:

- 1) gaining the love of your equal.
- 2) gaining the love of your son.
- 3) gaining the love of the king.
- 4) regaining the love of your husband or wife.

The second is for causing harm, and for other purposes:

- 1) causing hatred between people.
- 2) causing all-out war between people.
- 3) regaining stolen money.
- 4) increasing one's wealth.
- 5) winning a law suit.
- 6) protecting a place against misfortune.
- 7) destroying a city.
- 8) driving scorpions out of a city.

If you want to make a talisman for gaining love you use lead, iron, bronze, gold or silver. If you want to cause hatred, you use pitch and tar, bitumen and aloes. One may take as an example the procedure for making an image to entice the love of another person:

First the ascendant should be fixed and (as we have said) the appropriateness or otherwise of the question should be considered. If it is appropriate to carry on, first the ascendant and then the eleventh place (since this is the place that is relevant to association and friendship) and the lord of the ascendant are to be made fortunate. ... [*other astrological considerations are mentioned*] ... Having done this, with fixed intent one should entice an image of companionship out of the aforementioned seal.³² Then the name of the person whose love is sought is inscribed. Then a second talisman should be cast with the name of the person seeking love, and should be drawn out of the eleventh place. When this has been done, their names and cognomina should be written on each talisman. The two talismans should be placed together in such a way that the name on one of them is pressed against the heart of the other. Then

³² This is, presumably, the talisman of a man's figure with the parts of the body sculpted at the astrologically appropriate time.

the 'rings' of the lords of the ascendant and the eleventh place should be painted on a clean cloth or on virgin parchment which has been fumigated with a perfume made with musk, ambergris and camphor. The two talismans are themselves fumigated with saffron, aloes-wood and frankincense, and then wrapped in this cloth. Do this three nights in a row, after bathing and wearing clean clothes, and, whilst you are doing this, pray as follows:³³

"O shining spirits of the planets, you who descend from *al-'ālam* (i.e. the macrocosm),³⁴ effectors of good and evil! Bind the spirit of Socrates, son of Sophroniscus, to the heart of Plato. Let their will and desire be one; let loathing and rejection be absent; but let the imagination and memory <of the other> be always present. Be present, too, spirits of the hours of the planets, not only by day, but also in the night and in their dreams. Bring the picture of Socrates' image before Plato's eyes to such an extent that, all other feelings excluded, he gives himself totally to him, by the power of God."

This done, the same images should be bound in a girdle of the same nature as the lords of the signs. Then they should be placed in the house of Socrates and Plato, such that the wind blows over them in the entranceway, but that they are out of the rays of the sun. A benefic must be in the ascendant at the time of the burying.³⁵

If a wife wants to regain the love of her husband,³⁶ an image of a most beautiful woman must be made, and bound to the talisman of the man—all this at astrologically appropriate times. Rings of Venus and the Sun are painted, while one says the following prayer:

"O fount of honour, joy and light of the world! Mix together the loves of these two people, o spirits, using your knowledge of mixing, and being helped towards this end by the greatest power and the might of *al-malik* (i.e., 'the king'), *al-quddūs* (i.e., 'the most holy') and *al-hayāh al-dā'ima* (i.e., 'the eternal life'),³⁷ and by the power of him who moves the heavenly circles, giving to them *nūr* (i.e. 'light') and *'iyān* (i.e. 'illumination')³⁸ over this lower world." Then bind the talismans in girdles as before.³⁹

When the intention is that the race of scorpions should be put to flight from any place, again, at an astrologically appropriate time,

³³ Note that Adelard retains several Arabic words in his prayers which he then translates into Latin; I too will keep the Arabic words, providing English translations only for Adelard's Latin interpretations.

³⁴ 'Al-'ālam' literally means 'the world'; the word appears as 'elaalem' in the Latin manuscripts.

³⁵ *Liber prestigiorum*, 43–57.

³⁶ This is ample proof that women were clients too.

³⁷ The Arabic words appear as 'elmelic', 'elkeudduc', and 'elhaiedemi'.

³⁸ The Arabic words appear as 'noram' and 'eian'.

³⁹ *Liber prestigiorum*, 83–4.

the form of a scorpion should be made from bronze or tin or lead or gold or silver, in such a way that the right foot occupies the place of the left and the left that of the right. The name of the ascendant should be written in full along with (the name) of its lord; and also (the names) of the lord of the hour—and let it be the hour of the Sun—the lord of the day and also the Moon—it being in Scorpio—should be inscribed. Then it should be placed on the back at right angles (?) with the feet twisted back over the head, as if it is stinging itself. Then, when a little stone has been enclosed in its belly, it should be buried in the middle of the place or of the lair and, during the burial, this prayer should be recited: “May this species—every species of its kind—be put to flight from the present place—e.g., from Bath—, so that none of them may be able to enter or inhabit (this place).” If you decide to make four forms, they will have to be placed at the four sides of that place, when the place has been divided into four, and thus the talisman will be most secure. Let the same instruction be for every kind of animal or reptile, provided that the ascendant is put into relation with that kind.⁴⁰

Thus we see that ‘the noblest part of astronomy’ is, in fact, the practical part, as has already been said. This is emphasised in the first sentences of the text which in Adelard’s version may be translated:

Whoever is skilled in geometry and philosophy but without experience of the science of the stars, is useless (*otiosus*); for the science of the stars is, of all the arts, both the most excellent in its subject-matter and the most useful because of the effect of talismans.

Talismans are *useful*. The same idea occurs in the translations of works on astrological judgements of the period, and indeed, according to Albertus Magnus, the talismanic art is simply a branch of astrological judgements: it is one way by which the astrologer gives his client information about hidden things, about future events, and, in particular, about how to secure what he wants by carrying out a specific ceremony at a specific time. For the Sabaeans, Thābit and his Latin translators, the science of talismans is the culmination of the science of the stars, which in turn is the final and most exalted of the seven liberal arts.⁴¹

In the *Speculum astronomiae* of Albertus Magnus the science of talismans, which is mainly necromantic, also comes at the end of the list of the genres of astrology. But, whereas Albertus is in favour of the other branches of astrology, since they involve reading the signs put by God in His providence in the heavens, and not the *manipulation* of future events by magical means, he rejects the entire science of talismans, except the kind found in ‘Ptolemy’s *De imaginibus*, and John of Seville and

⁴⁰ Ibid., 70–6.

⁴¹ For the science of the stars being the culmination of the seven liberal arts, see Hugo of Santalla, *Preface to Liber trium iudicium*, ed. C. Burnett in ‘A Group of Arabic-Latin Translators Working in Northern Spain in the Mid-12th Century’, *Journal of the Royal Asiatic Society*, year 1977, pp. 62–108 (78).

Limia's version of Thābit's text. All the other books, which he is careful to name, must be assiduously avoided for the sake of one's spiritual health. Nevertheless, he concedes, 'they should be put aside rather than destroyed. For perhaps the time is already close, when for certain reasons about which I am now silent, it will be useful to have inspected them'.⁴² Fortunately, some of them were put aside, and still survive, and perhaps, now is the time at which it is safe to inspect them!

Appendix

The above article gives some medieval justifications for the use of talismanic magic. For a justification of prognostication and divination, it might be interesting to include a portion of the preface of 'Alī b. Ridwān to his commentary on the *Tetrabiblos* of Ptolemy. In the course of his argument, medicine, weatherforecasting from the rising and setting of constellations (*anwā'*), and shoulder-blade divination are mentioned; all of these forms of divination he would have known in Cairo where he served as a doctor in the mid-eleventh century. The following is the Latin translation of Aegidius de Tebaldis, as in MS London, British Library, Royal 12.F.VII, fol. 2va:

Dico quod [astrologia] est scientia pronosticationum. Unde potest homo scire res que future sunt antequam sint, sicut phisici sciunt presignacula que habent si eger sanari poterit vel non aut si sanum ad egritudinem venire potest vel non, vel ad quam infirmitatem venire debet. Sicut invenies in libro pronosticationum Ypocras, et in libro suo aerum et aquarum et regionum, et in libro Galieni de crisi et in illo de diebus ceticis. Similiter laboratores et minerarii habent suam artem quam intelligunt propter ortum et ascensum stellarum et earum occasum et propter ventos qui moventur et cognoscunt ea que contingere debent in arboribus, messibus et mineris, et id quod navibus in mari accidet, et cuiusmodi tempus erit. Et moderni habent artem suam qua sciunt res futuras inspiciendo in cordibus, spatulis et epatibus bestiarum. Similiter augurerii et illi qui inspiciunt ad proverbia et qui multum usi sunt de una vel ministerio uno, habent eorum, scilicet unusquisque intentionem suam prosciendo res que future sunt antequam sint. Unde quia scientia pronosticationis est manerierum multarum dicemus quod hec ars astronomie est una ex illis, et ante intelliges quod est certior omnibus aliis, verior et generalior, et in omnibus rebus completa.

⁴² *Speculum astronomiae*, c. 17, ed. Zambelli, pp. 270–3: 'De libris vero necromanticis sine praeiudicio melioris sententiae videtur magis quod debeant reservari quam destrui: tempus enim forte iam prope est quo propter quasdam causas quas modo taceo eos saltem occasionaliter proderit inspexisse'. This text is repeated in the *Philosophia* of Magister Oliverius Brito in MS Oxford, Corpus Christi College 283, fol. 4r–v.

Translation:

I say that astrology is the science of prognostication. From it man can know future things before they come about, just as doctors know what forewarnings they have as to whether the sick can be cured or if the healthy can become ill or not, or what illness he ought to suffer, just as you will find in the *Prognostics* of Hippocrates, and in his book *Airs, Waters and Places*, and Galen's book *On crisis* and in that *On critical days*. Similarly farmers and miners have their own skill which they understand by the rising and ascent of the stars and their setting, and by the movement of the winds; and they know what ought to happen to the trees, crops and metals, and what will happen to ships on the sea, and what the weather will be like. The moderns too have their own skill by which they know future things by inspecting hearts, shoulder-blades and livers of animals. Similarly augurs and those who inspect with incantations (?). So each one of those who make much use of one (skill) or one ministry, participate in them for the purpose of foreknowing things which will be, before they are. Hence, because the science of prognostication is of many kinds, we will say that this art of astrology is one of them, and you will understand first that it is more certain than all of them, more true, more general and in every respect, complete.

II

ADELARD, ERGAPHALAU AND THE SCIENCE OF THE STARS

The astrological works of Adelard consist, first, of a translation of the first thirty-nine propositions of a work falsely ascribed to Ptolemy, which is called in Greek and Arabic the 'fruit' (*karpōs* or *thamara*), and, in the various Latin translations, the 'hundred words' or *Centiloquium* of Ptolemy. Secondly, a translation of the shorter introduction to astrology of Abū Ma'shar, known as the *Isagoge minor*. Thirdly, a translation of a work on casting talismans, of which the title in Latin is *Liber prestigiorum Thebidis secundum Ptolomeum et Hermetem*, i.e., 'the book of talismans of Thābit b. Qurra, which follows [the teaching of] Ptolemy and Hermes'.¹

The *Centiloquium* was one of the most popular astrological texts in the Middle Ages. It consists of one hundred aphorisms giving succinct advice to the astrologer, or the doctor who was expected to make certain astrological observations. For example, the astrologer is told not to make an 'election' (i.e., not to tell his client what decision to make in regard to a given situation) unless he is sure of the strength of his client's desire. 'Otherwise', we read, 'the astrologer will be like someone reading a treatise in a language he does not understand. One cannot put confidence in him when he follows this course'.² The doctor should not bleed a limb when the Moon is in the sign of that limb; one should not put on new clothes when the Moon is in Leo, etc. These aphorisms were translated from Arabic into Latin at least four times before the middle of the twelfth century. Adelard's version is incomplete and may never have been finished.³

Abū Ma'shar's *Isagoge minor* is a much abbreviated version of his *Introductorium maius*. All philosophical and aetiological material has been rigorously excised, and we are left with bare astrological information of the type which could just as easily be set out in a series of tables. First comes the nature of the signs. For each sign most of the following information is given: the planet whose house the sign is; the planets whose exaltations and dejections occur in it; the lords of its three decans; its nature, described in terms of qualities, elements and humours; its sex; its taste; whether it rejoices by day or by night; whether it

¹ For the manuscripts of, and the secondary material on, Adelard's astrological works see the Catalogue, pp. 163–96 below. I am grateful to David Pingree for reading this paper and suggesting some corrections.

² *Centiloquium*, tr. Adelard of Bath, verbum 11, MS London, British Library, Sloane 2030, fol. 86v: 'Non facias electionem nisi post certitudinem consilii in natura rei electe sciasque quantum amplectitur potentia appetitus illius rei...erisque sicut qui cartam legit non intelligens linguam in qua scripta est. Nec enim confidendum est [re]i hunc cursum currenti'.

³ See R. Lemay, 'Origin and Success of the *Kitāb Thamara* of Abū Ja'far Ahmad ibn Yūsuf ibn Ibrāhīm', in *Proceedings of the First International Symposium for the History of Arabic Science, April 5–12, 1976 (Aleppo, 1978)*, II, pp. 91–107 (101).

is a mobile, fixed, or two-bodied sign; whether it rises directly or obliquely; whether it is of a perfect or imperfect figure; whether it is liable to anger and/or lust; how many colours and forms it has; how many children it has; what division of the animal kingdom belongs to it; what strength of voice it has; which part of a man's body and which cities and countries belong to it; what kind of terrain is assigned to it.⁴ Then Abū Ma' shar describes in turn the twelve astrological 'places' and the properties of the planets according to their position and movement and relationship one to another. There are twenty-five states in which the planets can stand in respect to one another, and various kinds of 'misfortune' can befall the planets; the 'misfortunes' of the Moon are particularly numerous. The individual natures of the planets are rehearsed in a way similar to that of the signs of the zodiac. The method of working out the 'lots', which are points on the ecliptic calculated by special means, is given. Lists of the periods of a man's life ascribed to each of the planets, of the planets' 'boundaries' within the signs, and the planets assigned to each 'ninth part' of a sign, are given. The degrees themselves are divided according to whether they are dark, shadowy, light, indifferent or empty, and according to whether they are masculine or feminine. Finally, the points on the ecliptic called 'wells' and 'excesses', where the planets respectively lose their efficiency and gain more power, are enumerated. The assignation of different terrains to different planets and the sections on boundaries, ninth-parts, shadowy degrees, masculine and feminine degrees, and * wells and excesses, are not found in the Arabic manuscripts of the *Isagoge minor* known to me,⁵ but correspond to the relevant sections of the *Introductorium maius*.⁶

The *Liber prestigiorum* gives instructions on how to make talismans. The practitioner should be skilled in astrology and should be confident in himself. For 'desperation causes change, and change is the mother of inefficiency'.⁷ A melothesia (i.e., the assignation of each of the parts of the body to a planet) follows. Then we learn how to construct talismans for inducing love, for winning back a wayward spouse, for causing hatred, for finding lost possessions, for winning a law-suit, for promotion, and for driving out scorpions. The talisman can be made of tin or lead, bronze, gold or silver, depending on the planet whose power is invoked. An appropriate image is inscribed on it; it is fumigated with a mixture of spices, and a prayer is recited over it; it is then buried in the position where it might have the most influence over its victim. A similar procedure is applied to rings. The treatise ends with some miscellaneous astrological information, some of which duplicates that of the *Isagoge minor*. Unfortunately, no Arabic source for this work has been identified up to now.⁸

⁴ Most of these classifications of the signs of the zodiac can be found in W. Hübner, *Die Eigenschaften der Tierkreiszeichen in der Antike*, Sudhoffs Archiv, Beiheft 22 (Wiesbaden, 1982).

⁵ London, British Library, Add. 7490, fols 119v–30, and Paris, Bibliothèque nationale, ar. 2696, fols 31–56.

⁶ See *Introductorium maius*, vi, ix (terrain), v, ix (boundaries), v, xvii (ninth-parts), v, xx (shadowy degrees), v, xix (masculine and feminine degrees), v, xxi (wells), and v, xxii (excesses).

⁷ MS Lyon, Bibliothèque municipale, 328, fol. 70: 'Desperatio autem mutationis, mutatio inefficacie mater est'.

⁸ The work *Kanz al-asrār wa dhakhīra al-abrār* (The Treasure of Secrets and the Repository of the Upright), which is attributed to Thābit b. Qurra and Hermes Trismegistus jointly in MS Princeton, University Library, Yahuda, 673, is not the work translated by Adelard. The first sentence alone of the work apparently translated

All three of these works occur together in MS Lyon, Bibliothèque municipale, 328, a manuscript written in A.D. 1395. The *Isagoge minor* and the *Centiloquium* are both in the twelfth-century MS, London, British Library, Sloane, 2030; and the *Isagoge minor* once was followed by the *Liber prestigiorum Thebidis* in MS, Avranches, Bibliothèque municipale, 235, another twelfth-century manuscript. In no manuscript does the *Centiloquium* occur on its own.⁹ Only in one manuscript does the *Isagoge minor* occur without either of the other two works, and the *Liber prestigiorum* is found only in two further manuscripts, where it accompanies other works on talismans. Thus the manuscript tradition shows that these three works travelled together.

Their similarity in content and style of translation corroborates this. None of the works is accompanied by a preface by the translator. Personal asides intrude in only one work, the *Liber prestigiorum*, in which Bath is used as the example of the city from which scorpions are to be driven out.¹⁰ All three translations are crudely literal and suggest that the author was not yet confident in Arabic. Several words are left in Arabic – including such common terms as *shemeli* (northern) and *genubi* (southern)¹¹ – and in the *Isagoge minor* the Arabic equivalents of many of the Latin terms used are included in the margin, as if the translator is not certain whether his audience or his fellow astrologers would know what he meant to convey by the Latin term that he was trying out.

If a deliberate stylistic feature in these otherwise painfully literal translations can be observed, it is in the opening words of the *Isagoge minor* and *Liber prestigiorum*, which resemble each other. The *Isagoge minor* begins: 'Quicumque philosophie scientiam altiorum studio constanti inquirens...' The *Liber prestigiorum* begins: 'Quicumque geometria atque philosophia peritus astronomie expers fuerit ociosus est. Est enim astronomia omnium artium et rerum excellentissima'. Both these openings are based on phrases in the original Arabic,¹² but the particular phraseology and some of the terms must surely have been influenced by the work *De utilitatibus astrolabii* attributed to Adelard's well-known predecessor Gerbert of Aurillac:

by Adelard occurs in the *Ghāyat al-Hakīm* or *Picatrix*; see H. Ritter and M. Plessner, '*Picatrix*', *das Ziel des Weisen von Pseudo-Magritī* (London, 1962), p. 35.

⁹ R. Lemay, however, has pointed out that there are manuscripts of the Latin *Centiloquium* in which more than one translation is given for each verbum, and Adelard's is one of the translations used in these composite versions (n. 3 above, p. 101).

¹⁰ MS Lyon, Bibliothèque municipale, 328, fol. 73v: '...inter humandum hec oratio dicatur: hec species <et> omnis sui generis species a loco presenti, verbi gratia a Batonia, fuget, ut nulla eam vel intrare vel inhabitare queat'.

¹¹ *Isagoge minor*, MS Sloane 2030, fol. 83. Adelard's transliterations possibly represent an English rendering of *shamālī* and *janubī*.

¹² A literal translation of the Arabic text of the *Isagoge minor* in MS Paris, Bibliothèque nationale, ar. 2696 gives the following: 'Ja'far b. Muhammad al-Balkhī, known as Abū Ma'shar, said: No true knowledge of the sciences would be reached except by permanent consideration of the wonders of the movements of the planets moving in the universal atmosphere and the knowledge of the existent causes in the world...'. The beginning of the Arabic text of the *Liber prestigiorum* as it is cited in *Picatrix* (n. 8 above) runs: 'The noblest part of the science of the stars is the science of talismans'. This is closer to the version of Thābit's *Liber prestigiorum* translated by John of Seville and edited by F. J. Carmody in *The Astronomical Works of Thābit b. Qurra* (Berkeley, 1960), pp. 180–97.

Quicumque astronomicae discere peritiam disciplinae et caelestium sphaerarum geometricaliumque mensurarum altiore scientiam diligenti veritatis inquisitione altius rimari conatur...¹³

Adelard expresses his debt to Gerbert in his *Regule abaci*,¹⁴ and his works travelled in the same manuscripts as the *De utilitatibus astrolabii*.¹⁵ Moreover, a brief portion of the *De utilitatibus* is found within the corpus of Adelard's astrological works in Lyon, Bibliothèque municipale, 328.¹⁶

The crude literalism of the translation and the experimental nature of the translations of technical terms suggest that Adelard is grappling with the problem of how to introduce new sciences to a Latin public. One might regret that Adelard himself did not write a preface explaining his methods, his choice of texts, the context of his translations, and the purpose which he thought they might serve, and if one turns to the only manuscript in which all three astrological works occur together, one might at first think that one has found the translator's introduction. For in Lyon, Bibliothèque municipale, 328, between the *Liber prestigiorum* and the *Isagoge minor* is a work composed in Latin of which the avowed purpose is to locate the study of the science of the stars in its appropriate position in a scheme of knowledge.¹⁷ This short work has no title, but may be called from its incipit *Ut testatur Ergaphalau*. The catalogue of Thorndike and Kibre gives only one further manuscript of this work. This is a twelfth-century manuscript originally from the Cathedral Priory of Durham, and might have been part of the rich collection of medical and scientific manuscripts donated to the Cathedral by a physician named Her(i)bertus in the third quarter of the twelfth century.¹⁸ In this manuscript, now in Jesus College, Cambridge, *Ut testatur Ergaphalau* serves as the preface to a copy of Adelard's *De opere astrolapsus*.¹⁹

Ut testatur Ergaphalau is a curious work. It starts with a citation of Ergaphalau to the effect that 'no one can understand any subject unless he has thoroughly mastered the sciences which precede that subject'. Since the science of the stars is the goal of all knowledge, then a rational division of the whole of knowledge must be given. What follows, however, in no way resembles the

¹³ *De utilitatibus astrolabii*, ed. N. Bubnov, in *Gerberti Opera mathematica* (Berlin, 1899), pp. 109–47; for the opening words see p. 114.

¹⁴ *Regule abaci*, ed. B. Boncompagni, *Bulletino di bibliografia e di storia delle scienze matematiche e fisiche*, 14 (1881), pp. 91 and 99.

¹⁵ Among these manuscripts are Chartres, Bibliothèque municipale, 214; London, British Library, Arundel 377; Paris, Bibliothèque Mazarine, 3642, and Avranches, Bibliothèque municipale, 235.

¹⁶ This is the section concerning the seven climates, ed. Bubnov (n. 13 above), pp. 142–6; Lyon, Bibliothèque municipale, 328, fol. 74^{r-v}.

¹⁷ This work is edited pp. 143–4 below.

¹⁸ MS Cambridge, Jesus College, Q.G.29; L. Thorndike and P. Kibre, *A Catalogue of Incipits of Mediaeval Scientific Writings in Latin*, second edition (London, 1963), col. 1624, give in error Q.G.29. For the manuscripts of Herbertus see Beriah Botfield, *Catalogi veteres librorum Ecclesie Cathedralis Dunelmensis*, Surtees Society, 7 (London, 1838), pp. 7–8. The surviving manuscripts from Herbertus's donation are small booklets, later bound in groups to form manuscripts. The booklet containing *Ut testatur Ergaphalau* and *De opere astrolapsus* is of a similar size and of the right date. The works, however, cannot be recognized among the titles of Herbertus's books. See also E. J. Kealey, *Medieval Medicus* (Baltimore, 1981), pp. 44 and 130–1.

¹⁹ This manuscript of the *De opere astrolapsus* includes the first part (i.e., the cosmological part) only. Adelard's text is followed without a break by a work on the uses of the astrolabe attributed in MS Paris, Bibliothèque nationale, lat. 16652, fols 28–37^v, to Aerialdus, but otherwise unattested.

divisions of sciences with which we are familiar from Boethius, Martianus Capella, Hugh of St Victor, William of Conches or Bernardus Silvestris.²⁰

The author starts from basic principles. There are two kinds of science. The first is that of the soul or the will. The second that of the body or nature. Natural science (*scientia naturalis*) is shared by animals and men, and includes the knowledge of eating, drinking, running, fighting, and bringing up young. Voluntary science (*scientia voluntatis*) emerges from the impulse initiated by a man's desire and is divided into philosophy, wisdom (*sapientia*) and science *tout court*. The author does not explain the latter and describes philosophy only briefly, stating that it is either concerned with fables and 'envelopes' (*involucra*) under which the truth is hidden (he gives Martianus Capella's 'Philosophy' as an example of this),²¹ or it works through similes – revealing the nature of higher beings through the consideration of lower ones. One would have liked the author to have explained what he meant by this, but, instead, the author dedicates the rest of his introduction to wisdom (*sapientia*). His conception of *sapientia* appears to be that of Boethius, and one of his definitions is an echo of that used by Boethius in his *De arithmetica*. Compare

Sapientia est comprehensio rerum que immutabilitatem essentie sue volente natura sortiuntur (*Ut testatur Ergaphalau*)

with

Haec igitur, quoniam...natura inmutabilem substantiam vimque sortita sunt, vere proprieque esse dicuntur. Horum igitur...scientiam sapientia profitetur (*Boethius*).²²

But he also defines *sapientia* as that which holds the middle position between art and science. It is divided into a ministering and a ministered part. Here at last we begin to feel that we may be entering familiar territory, because three subjects of the quadrivium, music, arithmetic and geometry, are mentioned. However, we soon lose our way again, because these three mathematical arts turn out not to be ministering to astronomy, as a fourth, but rather to be propaedeutic to *physica*. The author describes *physica* as the science by which the movements of natural things are studied. Under it is subsumed the study, first, of the movements of those things which come into being and pass away, which is the study of the microcosm, or medicine; and secondly, the movements of those things which do not suffer generation and corruption, i.e., the study of the macrocosm, or the science of the stars. The latter is given the unprecedented title *astronodia*. Once again the author presses into service a definition of Boethius, by describing *astronodia* as the study of magnitude in motion.²³ But he attaches a statement that firmly brings astrology under the wing of astronomy. His full definition is:

²⁰ For the divisions of science current in the Middle Ages, see J. Weisheipl, 'Classification of the Sciences in Medieval Thought', *Mediaeval Studies*, 27 (1965), pp. 54–90. For a schema of the division of science in *Ut testatur Ergaphalau* see Figure 1.

²¹ For the use of the word *involucra* in medieval philosophical exegesis, see P. Dronke, *Fabula* (Leiden, 1974), pp. 56–7. By 'Philosophy' our author must mean Martianus's *De nuptiis Philologiae et Mercurii*, ed. J. Willis (Leipzig, 1983).

²² Boethius, *De arithmetica*, I, i, ed. G. Friedlein (Leipzig, 1867), p. 8.11–15.

²³ *Ibid.*, I, i, p. 9.5–6: 'magnitudinis...mobilis...scientiam astronomicae disciplinae peritia vendicat'. In a division of *Philosophia* preceding a copy of William of Conches's *Philosophia mundi* in MS Praha, Státní knihovna, XIV.H.8, *astronomia* is divided into *astronodia* (sic) and *astrologia*. I am grateful to Bruce S. Eastwood for showing me a microfilm of this manuscript.

Astronodia is the science of magnitude in motion, which investigates the two movements of the matter which is not subject to generation and decay, and which, by judging the threefold passing of time, reveals present things, predicts future things, and recalls to mind past things.

Astronodia is divided into *astrologia* and *astronomia*. This division does not correspond to our present-day conceptions of astrology and astronomy. The division is made, rather, according to whether an instrument is used or not. In all the subdivisions of *astrologia* an instrument is not needed, and the science is studied with the intellect alone. This is possible in the case of 'fabulous astrology' in which myths reveal the rationale of the stars (as in Martianus), historical astrology, in which historical events are seen to correspond to the yearly revolutions (and possibly conjunctions) of the heavenly bodies, and natural or rational astrology, which alone is the exact mathematical science of astronomy as we know it. The term *astronomia* is reserved for the science which needs instruments – i.e., the experimental science. It is here that the author expatiates most fully. This experimental science is divided into a part in which events of the past, present and future are discovered but not changed by the observation of the stars; and a part in which events are manipulated or engineered. Raymond of Marseilles, a contemporary of Adelard, described the same division in terms of *contemplativa astronomia* and *activa astronomia*.²⁴ Various methods for the first part, i.e., for predicting events, are described, and for each an authority is given. Each is also given a curious name, in which Greek or Arabic words are dressed in Latin form. Thus we have *onomica scientia*, in which the numerical values of the client's name are used; *chronica scientia* in which the judgment is made from the hour in which the client approaches the astrologer; *augealis scientia*, perhaps from the Arabic *auj* ('apogee'), in which the positions of the planets in their houses are significant, etc. The 'perfect kind' of *astronomia* combines all these different methods. As for the manipulative science, this includes the science in which talismans are used alone, and the science in which talismans are used in conjunction with spells and incantations. The author ends his introduction by saying that some of this science does not seem to be in agreement with the Catholic faith, but he could, if need be, go on to show that it is all true.

Ut testatur Ergaphalau is not a translation from another language. The author is certainly aware of two definitions by Boethius and refers to Martianus by name. However, the subject-matter does not seem to belong to a Western European tradition, and most of the authorities appear to have come via an oriental route. One can recognize straight away the name Ptolemy, whose *astronomia perfecta* is presumably his *Tetrabiblos*, though it may be his *Centiloquium*. The textbook on 'rational astrology' is by 'Alfagrani' who must be the ninth-century author al-Farghānī, and would be either his *Elements*, which summarizes Ptolemy's *Almagest* and which was translated into Latin twice in the

²⁴ MS Cambridge, Fitzwilliam Museum, McClean 165, fol. 48: 'Contemplativa est que habet se in solo cursu planetarum... Activa est que habet se in opere sigillorum et imaginum' (from the preface of Raymond of Marseilles's *Liber cursuum planetarum VII*).

twelfth century, or his commentary on al-Khwārizmī's tables.²⁵ Hermes is given as the authority on historical astrology, and several astrological works are attributed to Hermes in Arabic.²⁶

These authorities show that the author was aware of Arabic astrological and astronomical writings of the kind that would have been available in al-Andalus any time from the late ninth century onwards. There are two indications, however, that suggest that the author may have had closer contacts with Jews rather than with Arabs in al-Andalus. First of all, the author mentions the *Astronomia quorundam Arabum*, as if he is not an Arab himself. Secondly, as an example of *astronomia planetica*, a work by a Jew is cited: *Astronomia Abinded Iudei*. We know of at least one Abraham b. Daūd who wrote on astrology, for a passage in Latin is attributed to a man of that name in a Toledan manuscript; this concerns the relationship of the place of the ascendant at the time of conception to that of the Moon at the time of birth.²⁷ Mlle d'Alverny has conjectured that this may be the same Abraham b. Daūd who fled from Cordova to Toledo in the middle of the twelfth century and was the author of the *Emunah Ramah*, and may in turn be identified with the Avendauth who collaborated with Dominicus Gundissalinus in translating Ibn Sīnā's *De anima*.²⁸ However, Ibn Daūd must have been a common Jewish name, and we may be dealing with several different people.

In considering the possibility that *Ut testatur Ergaphalau* might be written by an author familiar with Jewish material, and seeing that his work occurs with that of Adelard of Bath and no one else, one might assess the possibility that Petrus Alfonsi had something to do with the work. For Petrus was a converted Jew and was in England at the same time as Adelard of Bath, probably as a doctor of King Henry I; his opinions on the lunar nodes and eclipses were written down by Walcher, Prior of Malvern;²⁹ and it seems that his version of the tables of al-Khwārizmī was combined with that of Adelard at an early date.³⁰ We know that Petrus himself wrote an 'introduction to the science of the stars, known as the *Letter to the Peripatetics of France*, which, in an abbreviated version, accompanies the composite text of the Tables of al-Khwārizmī.³¹ This letter, like *Ut testatur Ergaphalau*, emphasizes the importance of the science of the stars and attempts to locate it within a system of learning. Petrus refers to certain sciences as common to animals and man. He regards arithmetic as necessary for the other sciences, and he elevates *physica* as a discipline. Finally, both the author of *Ut testatur Ergaphalau* and Petrus claim that their science is not in

²⁵ A. I. Sabra, 'Al-Farghānī', in *Dictionary of Scientific Biography*, ed. C. C. Gillispie (New York, 1971), iv, pp. 541–5. Al-Farghānī's commentary is known only in Latin and Hebrew translations of a revision made by Ibn al-Muthannā' in the tenth century: see B. R. Goldstein, *Ibn al-Muthannā's Commentary on the Astronomical Tables of al-Khwārizmī* (New Haven, 1967).

²⁶ F. Sezgin, *Geschichte des arabischen Schrifttums* (Leiden, 1970), vii, pp. 62–3.

²⁷ MS Madrid, Biblioteca nacional, 10015, fol. 19^v.

²⁸ M. T. d'Alverny, 'Avendauth?', in *Homenaje a Millás-Vallicrosa* (Barcelona, 1954), i, pp. 19–43 (35–37).

²⁹ C. H. Haskins, *Studies in the History of Mediaeval Science*, second edition (Cambridge, Mass., 1927), pp. 115–19.

³⁰ These are the conclusions of B. G. Dickey in his thesis, 'Adelard of Bath: An Examination Based on Heretofore Unexamined Manuscripts', unpublished Ph.D. dissertation, University of Toronto, 1982, pp. 45–72.

³¹ Petrus's *Letter to the Peripatetics of France* is edited in J. M. Millás-Vallicrosa, 'La aportación astronómica de Pedro Alfonso', *Sefarad*, 3 (1943), pp. 97–105.

conflict with Christianity. However, there are some striking differences between the two writings. In describing science, Petrus takes as his starting point the traditional Latin trivium and quadrivium, finding reason to disparage grammar but to advance astronomy, whereas the author of *Ut testatur Ergaphalau* hardly brings the traditional seven arts into his framework at all. Petrus, in common with the Ikhwān al-Ṣafā', the author of the *Secretum secretorum*, and several translators in the twelfth century,³² divides the science of the stars into three parts, which we may characterize as celestial physics, mathematical astronomy, and astrology. The author of *Ut testatur Ergaphalau* makes a more detailed and idiosyncratic division of the science of the stars, as we have seen. The style of writing of the two authors is also very different, and Petrus shows no toleration for recherché Greek forms such as those used by the author of *Ut testatur Ergaphalau*. The common 'feel' of the two works may be due to a common aim and a shared Jewish background.

If Petrus is to be discounted as author, there are two references, not discussed so far, which point in another direction. The first is the name Ergaphalau itself, which occurs not only in the opening sentence but also in the name of the book on *chronica scientia*: 'Astronomia Ergafalau ad Alexandrum'. The second is the authority on *onomica scientia*: 'Astronomia Alexandri'.

A letter of Ergaphalau to Alexander is extant, and is, up to now, the only context in which the name Ergaphalau has been noted. It is a brief work which tells the astrologer how to predict what is in the mind of the client who is approaching him and what he holds in his hand, from the planet that rules the hour of his approach. It forms part of a compilation of works on judicial astrology (i.e., *astronomia* in the terms of our author) and is the only surviving compilation which we know to have been written in Latin between the late classical period and the time of Adelard. The compilation as a whole is variously known as *Liber Alchandreï*, *Mathematica Alhandrei summi astrologi*, and *Mathematica Alexandri summi astrologi*.³³ The identification of Alchandreus with Alexander the Great is confirmed by several internal references to Alexander Macedo as the authority on which the information is based. Since a large part of the compilation concerns predicting from the numerical equivalents of the letters of the client's name (i.e., onomancy), it is clear that the *Astronomia Alexandri* mentioned in *Ut testatur Ergaphalau* is a version of the same compilation.

Some of the material of the *Liber Alchandreï* comes from Jewish sources. In the case of the onomancy, the letters of the client's name have to be converted into Hebrew characters before their numerical value is found. The Hebrew names of the planets and the signs of the zodiac are given, and the years between the creation of the world and the present day are given according to Jewish

³² *Secretum secretorum*, ed. R. Steele, in *Opera hactenus inedita Rogeri Baconi* (Oxford, 1920), v, p. 62; Hugh of Santalla, preface to his translation of *Liber trium iudicium*, ed. C. S. F. Burnett, in 'A Group of Arabic-Latin Translators working in Northern Spain in the Mid-Twelfth Century', *Journal of the Royal Asiatic Society*, 1977, pp. 62-108 (80-1).

³³ See A. Van de Vyver, 'Les Plus Anciennes Traductions latines médiévales (x-xi siècles) de traités d'astronomie et d'astrologie', *Osiris*, 1 (1936), pp. 658-91 (666-80). I have used MS Paris, Bibliothèque nationale, lat. 17868 (s. x^{ex}) in which the compilation is headed *Liber Alchandreï philosophi*.

reckoning. The Jewish astrologer Sahl b. Bishr (early ninth century) is cited,³⁴ though it might have been in Arabic that his widely-diffused introduction to astrology was known to the compiler of the *Liber Alchandreï*. Millás-Vallícosa points out correspondences between the *Liber Alchandreï* and the Calendar of Cordova, a calendar written in Arabic for the Christian community there.³⁵ Millás concludes that the *Liber Alchandreï* was written in Spain, but is based on texts of oriental provenance and incorporates both Jewish and classical material. Might we see it as a witness to an uninterrupted transmission in Spain of a simple form of astrology from the late classical times to the era of the translators? Other evidence for this transmission is provided by the lost Latin work known as the *Book of the Crosses*, a popular astrological work which had been translated from Latin into Arabic in Spain by the end of the eighth century.³⁶ The date of the *Liber Alchandreï* is as yet unknown, but the earliest manuscript is of the late tenth century, and a revision of the work, which appears in at least two manuscripts, gives the 'present date' as A.D. 1040.³⁷

What is of interest to us is that, some time before the end of the tenth century, a more pretentious version of the material of the *Liber Alchandreï* was compiled. The reviser appears to have given the material the title *Proportiones competentes in astrorum industria* ('Corresponding ratios in the business of the stars?'), though at least two manuscripts retain the title *Mathematica Alexandri summi philosophi*, and the work may have continued to be known as the book of Alchandreus. The text begins: 'In primordio (*or* exordio) omnis creature herus uranicus...' ('In the beginning of all creation the heavenly master...'), and the use of *recherché* terms, especially of Greek etymology, such as *uranicus*, is typical of the work; e.g., we find *Cillenius* for Mercury, *Phebus* for the sun, *Cela* for the zodiac-sign Scorpio, *ebdomada* for week, *hippocrates* for the profession of doctor, *peripateticus* for the profession of philosopher, and even *serapion* for a kind of illness. What is most significant is that, of the six manuscripts seen by me, four appear to be of English provenance,³⁸ and one of these accompanies Adelard's astrological works in MS London, British Library, Sloane 2030.

Let us look at this manuscript again. Into it have been stitched two gatherings of four bifolia each, written in the middle of the twelfth century, which comprise the following works only, in this order: Martianus Capella, *De nuptiis Philologiae et Mercurii*, book viii, *De astrologia*; Adelard's translation of the *Centiloquium* of Ptolemy; Adelard's translation of Abū Ma'shar's *Isagoge minor*;

³⁴ MS Paris, Bibliothèque nationale, 17868, fol. 9: 'asscalu hismahelita'.

³⁵ J. M. Millás-Vallícosa, *Assaig d'història de les idees físiques i matemàtiques a la Catalunya medieval*, Estudis universitaris catalans, sèrie monogràfica, 1 (Barcelona, 1931), p. 253.

³⁶ The history of this text is described in J. Samsó, 'The Early Development of Astrology in al-Andalus', *Journal for the History of Arabic Science*, 3 (1979), pp. 228–43.

³⁷ MSS London, British Library, Add. 17808, fol. 86^v, and Città del Vaticano, Biblioteca apostolica, Pal. lat. 1416, fol. 121.

³⁸ The English manuscripts are: London, British Library, Sloane 2030, fols 88–94; *ibid.*, Arundel 339 (s. xiii), fols 36^v–40^v; Oxford, Bodleian Library, Ashmole 369 (s. xiiiⁱⁿ), fols 74–84^v; London, Wellcome Institute, 21 (s. xii), fols 1–7^v. The other manuscripts are Paris, Bibliothèque nationale, lat. 17868 (s. x^{es}), fol. 17; *ibid.*, 7299A (s. xii), fols 81^v–84 and 56–65^v. Neither Cambridge, Peterhouse College, 250 (s. xv), fols 63–70^v nor München, Bayerische Staatsbibliothek, Clm 458 (s. xv), fols 1–38, mentioned in F. J. Carmody, *Arabic Astronomical and Astrological Sciences in Latin* (Berkeley, 1956), p. 37, contain the work. I am grateful to Bruce S. Eastwood for information.

and the *Proportiones competentes*. It is significant that the only Latin author that is mentioned by name in *Ut testatur Ergaphalau* is Martianus; that the author of *Ut testatur Ergaphalau* should express his allegiance to Ergaphalau and refer to Alexander, the main authorities on which the *Proportiones competentes* is based; and that the authors of both *Ut testatur* and *Proportiones competentes* should revel in using Greek and Arabic terms dressed in Latin garb. One may note that the title *Proportiones competentes* recalls the phrase in the description of astronomy in *Ut testatur Ergaphalau*, that this science determines the changes of things subject to generation and decay through the *proportio* of the bodies which are not subject to generation and decay.

The successive versions of the *Liber Alchandreï* and the tradition of the manuscripts of these works are still to be studied in detail. However, it does not seem impossible for *Ut testatur Ergaphalau* to have been written some time before the end of the tenth century and by the same author as the *Proportiones competentes*, perhaps even as a preface to that work. The occurrence of both works with the astrological works of Adelard and the absence of an introduction to astrology by Adelard himself suggest that Adelard or an early follower may have supplemented pre-existing works on judicial astrology with Adelard's new translations and used *Ut testatur Ergaphalau* as a preface to that collection. We know that 'Alchandreus' was known to Adelard's contemporary who lived not too far from Bath, William of Malmesbury, for he compares Gerbert of Aurillac to 'Alandraeus'.³⁹ We find the *De utilitatibus astrolabii* attributed to Gerbert and *Liber Alchandreï* together in one eleventh-century manuscript,⁴⁰ and one of the three manuscripts of Adelard's *Regule abaci* (a work which itself follows the tradition of Gerbert) once contained a work with the title *Libri Alchandreï philosophi de astrologia*.⁴¹

The collection including *Ut testatur Ergaphalau*, *Proportiones competentes*, and Adelard's astrological works, did not survive long. The *Proportiones competentes* was soon replaced by more sophisticated works on judicial astrology, and Adelard's clumsy and halting translations of the *Centiloquium* and Abū Ma'shar's *Isagoge minor* were replaced by much more accurate translations of the former work,⁴² and two translations of the more useful *Introductorium maius in astrologiam* of Abū Ma'shar, whilst his translation of a work on magic-working talismans became lost in a mass of material on magic and the casting of spells. Nevertheless, the study of the contents of the *Liber Alchandreï*, *Ut testatur Ergaphalau*, and the early translations of Adelard of Bath could reveal in an interesting way the first stages in the emergence of astrology as a mathematical science in Europe in the Middle Ages, and *Ut testatur Ergaphalau* shows one way in which the traditional division of the quadrivium was set aside and replaced by a division of sciences more accommodating to astrology.

³⁹ *Gesta regum*, II, clxvii, ed. W. Stubbs, Rolls Series (London, 1887–9), I, p. 194: 'Ibi viciit scientia Pholomeum in astrolabio, Alandraeum in astrorum interstitio' (of Gerbert of Aurillac).

⁴⁰ MS München, Bayerische Staatsbibliothek, Clm 560.

⁴¹ MS Leiden, Bibliotheek der Rijksuniversiteit, Scaliger I (s. xv).

⁴² See Lemay (n. 3 above).

APPENDIX

An edition of Ut testatur Ergaphalau

J = Cambridge, Jesus College, Q.G.29 (s. xii), fol. 179.

L = Lyon, Bibliothèque municipale, 328 (A.D. 1395), fol. 74^v.

Editorial changes have been indicated by italics.

Ut testatur Ergaphalau,¹ absoluta non potest haberi alicuius rei noticia nisi precedentium, velud ratio deposcit, doctrina elucescat. Inde est quod astronomie seria cupientibus scire, scientie terminus cum divisione perfecta est explanandus. Est igitur, sicut diffinit idem Ergaphalau,² status cuiusque rei³ intemerata et veridica⁴ comprehensio, vel corporis ad alicuius actionis vel passionis usum conveniens accommodatio. Inde est quod scientia alia dicitur corporis, alia anime,⁵ sive alia dicitur nature, alia voluntatis.

Naturalis scientia est bipertita, alia enim conservans dicitur, sive conservativa,⁶ alia disponens. Conservativa⁷ est⁸ que circa actiones corporis statum conservantes consistit, velut scientia comedendi, bibendi et reliquorum naturalium. Scientia disponens est que ex corporis amplificatione natura prima consurgit, ut scientia currendi, pugnandi et similium. Est etiam⁹ scientia naturalis quedam communis, quedam specialis. Communis est que in rationalibus¹⁰ et brutis reperitur,¹¹ ut scientia educandi filios. Specialis est que in solis rationalibus¹² reperitur. Utraque tamen¹³ scientia de magisterio nature elicitor. Inde est quod natura dicitur docuisse omnia animalia iustos usus quarumdam actionum ut usum conservandi filios et alendi.

Scientia voluntatis seu animalis est que motu communi cupientis¹⁴ aliquid cognoscere emergit,¹⁵ et hec tripartita est. Alia enim dicitur philosophia, alia¹⁶ sapientia, alia simpliciter scientia. Est autem sapientia virtus artis et scientie medium locum inter utrumque tenens, vel comprehensio¹⁷ rerum que immuta-/ fol. 179^v/bilitatem essentie sue volente natura sortiuntur, et hec dividitur in ministrantem et ministratam. Ministrans est sapientia ut musica et arismetica, que [per]¹⁸ numerorum absolutionem, simpliciter et ad aliquid, ad scientiam vel ad noticiam naturalium introducunt. Ministrata est velut geometria et physica quarum altera tantum alteri ministrat. Geometria enim motus *et*¹⁹ dimensiones corporum immobiliter describens ad motus naturalium facilem parat accessum. Est igitur sola physica ministrata que naturales immutationes rerum secundum transitum et moras continenter absolvit. Que duplex reperitur. Alia enim dicitur microcosmica, alia megacosmica. Microcosmica scientia est ponendi modum ad modum, vel ad aliquid²⁰ quod modum²¹ excedit, ut temperantia microcosmi, id est minoris mundi seu hominis, conservetur, et hec dicitur medicina. Megacosmica²² est scientia statum maioris mundi per quantitatis absolutionem et motuum conceptionem perquirens, et hec quidem physica impassibilis est, eo quod in ea de natura impassibilium agitur, altera dicitur physica passibilis, eo quod per eam noticia passibilium habetur. Dicitur etiam²³ megacosmica astronodia, que sic diffinitur: Astronodia est scientia magnitudinis mobilis utrumque motum impassibilis masse speculans, que triplex temporis curriculum diiudicans /L fol. 75/ presentia demonstrat, futura predicat, et²⁴ preterita ad memoriam revocat; vel astronodia est scientia impassibilis masse naturam absolvens, motus magnitudinis eius speculativa²⁵ que etiam inferiorum immutationes²⁶ per proportionem impassibilium determinat. Dividitur autem hec in duo, videlicet in astronomiam et astrologiam. Astrologia est scientia astrorum speculativa²⁷ soli intel-/ fol. 180/-lectui deserviens, que magnitudines circulorum et planetarum motus directos vel indirectos sine exteriori amminiculo indagat. Dividitur autem astrologia in fabulosam, historicalem et naturalem. Fabulosa est que quibusdam velut figmentis colorata de ratione disputat²⁸

astrorum, ut Astrologia MARTIANI.²⁹ Historialis est que, per revolutiones annorum res gestas ad memoriam reducens statum superiorum perstringit, ut Astrologia HERMETIS.³⁰ Rationalis est que simpliciter et sine integumento³¹ de esse³² astrorum et statu³³ disputat, ut Astrologia ALFAGRANI.³⁴

Astronomia vero³⁵ est scientia que per instrumentorum cooperationem³⁶ signorum, planetarum et circularum motus³⁷ percurrans, inmutationes inferiorum absolute significat.³⁸ Astronomia alia dicitur prima et significans, alia secunda et³⁹ inmutans. Prima et significans est que per inspectionem⁴⁰ superiorum quid esse vel futurum esse vel desiisse significetur ostendit. Astronomia prima quedam dicitur perfecta, quedam imperfecta. Imperfecta alia dicitur cronica sive horalis, que per horas tantummodo de presentibus, preteritis et futuris respondere docet, ut Astronomia ERGAFALAU⁴¹ AD ALEXANDRUM. Alia dicitur onomica, que per nominum supputationem divinat, ut Astronomia ALEXANDRI.⁴² Alia dicitur planetica, que tantum statum planetarum attendit, ut Astronomia ABINDED⁴³ IUDEI. Alia dicitur augalis que tantum domos planetarum inspicere docet, ut Astronomia QUORUMDAM ARABUM.⁴⁴ Alia dicitur inferiorum sive sensualis, que per motum animalium et ortum astrorum vel ventorum quedam predicat coniciendo. // fol. 180v/ Perfecta vero⁴⁵ est que in omnibus his imperfectis⁴⁶ futurorum statum, preteritorum casus, presentium esse, perfecte phisiculator,⁴⁷ sicut Astronomia PTOLOMEI. Secunda vero⁴⁸ et inmutans dicitur imaginaria sive idealis, que sumpta forma secunda superiorum motum inferiorum

statum demonstrat (J).

aut infortunia conservat, aut infortunio *
producendo contribulat (L).

Hec habet duodecim species. Alia dicitur interrogantis, que in ymagine formam inmutationis concipiens, interrogantem pro velle suo inmutat.⁴⁹ Alia est possessionalis, que imaginem ad augmentum vel detrimentum possessionis fieri docet. Et ita secundum titulos duodecim domuum, imaginaria⁵⁰ variatur scientia. Dividitur autem imaginaria in puram⁵¹ et exorcismalem. Pura est que sine incantationibus et exorcismis imagines fundi, inspecto⁵² statu tantummodo superiorum⁵³ docet. Exorcismalis est que exorcismis et incantationibus imaginibus cooperandis⁵⁴ spiritus includere docet.

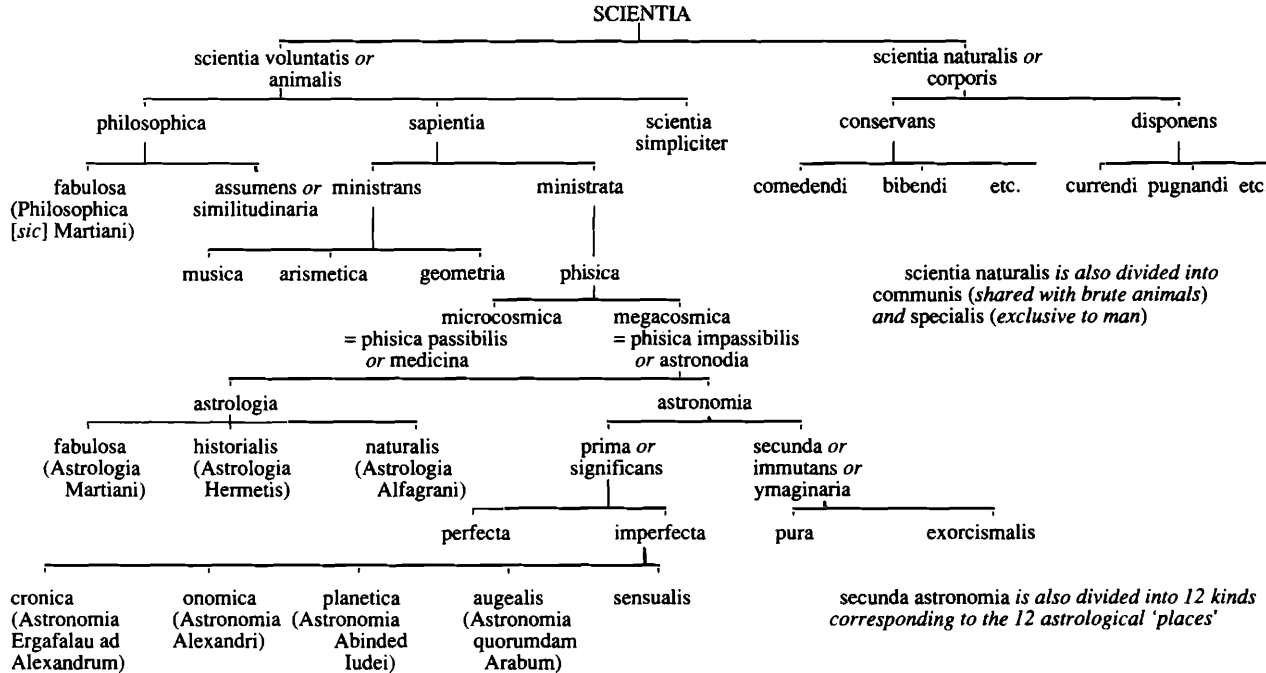
Philosophica⁵⁵ est scientia que⁵⁶ quibusdam involucris et similitudinibus ea que sunt subiecta sapientie speculatur occulte. Dicitur autem philosophica⁵⁷ quasi amor⁵⁸ sophie. Que dividitur in fabulosam et assumentem sive similitudinariam. Fabulosa⁵⁹ est que fabularum enigmata subiecta sophie significat, ut Philosophica⁶⁰ MARTIANI. Assumens vel similitudinaria, que per similitudines superna demonstrat.

Hec de variis speciebus astronomie breviter dicta sufficiant. // fol. 181/ Que per omnia explicare nec sanum nec tutum penitus reor. Plura forte repperientur que catholice fidei non communicare videntur, quamquam ostendere possemus si eo animus ferret non omnia a veritate abhorrere.

1 ergafalau L 2 idem Ergaphalau L om. 3 add. vel esse L, vel esse in ras. J 4 vindica J 5 anime conieci, anima L, animi J 6 conservatura L 7 conservatam L 8 est L om. 9 quoque L 10 rationabilibus J 11 invenitur L 12 rationabilibus J 13 enim L 14 presentis J 15 querit J 16 id est J 17 reprehensio J 18 per LJ, sed superfluum est 19 addidi 20 id L 21 J om. 22 Mega sub ras. in J, corr. in Macro- 23 autem L 24 J om. 25 speculativa conieci, -tam JL 26 inmutationes conieci, -num JL 27 speculativa conieci, -tam JL 28 disputavit L 29 L om. 30 L om. 31 tegumento J 32 statu J 33 et statu J om. 34 L om. 35 L om. 36 comparisonem L 37 add. vel qui L 38 -cant L 39 L om. 40 p.ins.) inspectione L 41 L om. 42 L om. 43 L om. 44 L om. 45 L om. 46 inspectis J 47 philosophicatur J (for the word phisiculatori see Lupitus(?), preface to the treatise on the astrolabe (edited by J. M. Millás-Vallicrosa, *Assaig d'història de les idees físiques i matemàtiques a la Catalunya medieval* (Barcelona, 1931), p. 272) 48 vero L om. 49 incommutat L 50 imaginaria conieci, ymaginam L, imaginam J 51 quam J 52 inspectio J 53 superiorum J 54 cooperandis conieci, -do LJ 55 phisica L, phica J 56 L om. 57 phisica L, phica J 58 amore J 59 -sam L 60 philosophia L; with this word L ends.

Figure 1

The Division of Science in *Ut testatur Ergaphalau*



III

ARABIC, GREEK, AND LATIN WORKS ON ASTROLOGICAL MAGIC ATTRIBUTED TO ARISTOTLE

IN THE Benedictine Abbey of Tegernsee in the heart of the Bavarian Alps there is a manuscript, copied at some time in the thirteenth century, which contains a short work in Latin on how to make magical talismans. The work begins: 'Aristotle, full of good sense, said: When the moon enters its first mansion, which is called Sartan, make a talisman for love . . . When it alights in its second mansion, Albotaim, make a talisman for the favour of princes, animate statues, call angels unto you'. In this manner it continues to the end.¹ It is difficult to believe that such a work would have been allowed in a monastery, belonging as it does to the same genre of writings as the book of Iamne and Mambre and the phylacteries proscribed by Pope Gelasius.² In any case a Tegernsee monk would not have found much practical use for the work. It omits to mention the material or the shape of the talismans, or the words used to summon the angels. But it has another defect. One is required to observe the position of the moon in its mansions—that is, in the twenty-eight constellations through which it passes on its sidereal orbit—to which Arabic names are given here, as elsewhere in Latin astrological works.³ Now, our work gives only the first fourteen of these twenty-eight mansions. The Latin text of the second half of the work, covering lunar mansions fifteen to twenty-eight, is missing. What is curious is that we have an Arabic text in a compilation by 'Abd al-Ḥasan al-İşfahānī, written for a certain Ḥusain Irbilī, probably at Baghdad at the beginning of the fifteenth century, which is incomplete in the same way.⁴ The page containing the work has the heading: 'The Account of the Description of the Twenty-Eight Mansions of the Moon', under which there are two columns each containing seven compartments.

Thus there is one for each of the first fourteen mansions, and there is no evidence that the descriptions of the other mansions once existed in this manuscript. On the left-hand side of each compartment there is a graphic representation of the meaning of the word approximating most closely to the proper names of the lunar mansions.⁵ On the right-hand side, separated by the name of the mansion itself, is the prescription for each mansion. The text is very similar to that of the Tegernsee fragment. The prescription for al-Sharṭain begins: 'When the moon is in it, make talismans (*nāraṇjiyyāt*) for the love of women', and for al-Buṭain we read: 'When the moon is in al-Buṭain make talismans for the love of kings, and fabricate amulets', etc. It is possible that both the Tegernsee and the Baghdādī texts derive from the same summary concerning making talismans according to the mansions of the moon. We are fortunate in having a fuller version of the text in Arabic from which such a summary may have been made, within a work called the *Kitāb al-Ustuwat*.⁶ Here all twenty-eight mansions of the moon are included, and the larger work into which the text is incorporated gives detailed instructions on how to make up the talismans and what secret names to use to summon the angels, or the spiritual forces, of the planets. The cryptic designs to be inscribed on the talismans and the natures of the rings into which they are to be set are also examined. The section on which talismans are to be made under which lunar mansions is firmly attributed to Aristotle. We read: 'Aristotle said: I found in the *Kitāb al-makhzūn* ("The Hidden Book") on the course of the

moon in its mansions in the zodiac, matters concerning the government of man himself in his conduct and affairs together with the technique of talismans (*nairanjāt*) and their effects'.⁷ And a little further on we find: 'If the moon enters al-Shartain . . . then make in it talismans for the love and affection of women . . . When the moon is in al-Butain . . . make in it talismans for the affection and love between kings and their subjects . . . and make amulets in it'. In addition, for each lunar mansion it is suggested that certain activities should be undertaken or avoided, and the characteristics of the male and female children born under the mansion are described.⁸ The origin of the *Kitāb al-Uṣṭuwṣṭās* is described as follows:⁹ 'Ḥunain ibn Ishāq said: This is one of the books of Aristotle which we found and translated from Greek into Arabic. It is the book of the causes of the spiritual forces by Hermes . . . And this is the book in which Aristotle explained the causes of spiritual forces and talismans . . . And this is what Alexander demanded from Aristotle the Wise when he had completed the *Kitāb al-Iṣṭamākhīs*, which he had composed for Alexander to take on his journey to Persia.'

Thus we have the history of a short text attributed to Aristotle. It purports to have been written for his royal pupil, and to have been translated by the greatest of the Baghdādī translators, Ḥunain ibn Ishāq (c. 809–73 A.D.). It was taken from its context and abbreviated in Arabic. At some stage in its transmission it lost its second half. The abbreviated and truncated version was translated into Latin—possibly via Greek, since the Greek word for moon, *σελήνη*, is used—it was copied into a few manuscripts and eventually printed, in Venice in 1509.

This story raises the questions which are the concern of this paper: how is it that Hermetic works on astrology and magic were couched in the form of a correspondence between Aristotle and Alexander? Can we hazard a guess at the origin of these works? How widely were they diffused?

There is no doubt that Philip of Macedon summoned Aristotle back to his native land to be a tutor for the young Alexander. Whether any of the Greek correspondence that we have between the master and his pupil is genuine is a matter of dispute. An antique exchange of letters in which Aristotle explains to Alexander the value of his acroatic or esoteric writings has been claimed to be a forgery, possibly perpetrated by Andronicus of Rhodes.¹⁰ The Greek and Latin *vitae* which include lists of works of Aristotle are based on a lost life by a certain Ptolemy.¹¹ It is also from Ptolemy's life of Aristotle that much of the Arabic biographical tradition ultimately derives. But here we find some differences begin to appear. In the tenth-century bibliographical dictionary of Ibn al-Nadīm we read of several letters on political and other subjects which passed between Aristotle and Alexander. Ibn al-Nadīm quotes some political maxims, allegedly from these letters.¹² However, his list of Aristotle's works includes only a few items, such as the *Theologia*, which would not have been found in Ptolemy's list.¹³ By the time we come to Ibn Abī Uṣaibi'ah, who wrote another bibliographical dictionary in the thirteenth century, the picture has changed considerably. At the end of his list of the canonical writings of Aristotle, Uṣaibi'ah writes: 'Ptolemy said that "these are the sum total of the books I have claimed for Aristotle. But other men have claimed other books for him"', and Uṣaibi'ah goes on to boast that 'I say that there are many books of Aristotle which I have found other than those mentioned by Ptolemy'.¹⁴ He proceeds to give some forty titles. Amongst these are several books addressed to Alexander: 'The Book on the Spiritual Forces and their Effects and their Regions', the *Kitāb al-Ismāṭāḥīs*, 'The Letter on the Natures of the World',¹⁵ the *Kitāb al-Iṣṭamākhīs* (which, according to Uṣaibi'ah, Aristotle composed when

Alexander departed for al-Rūm), the *Kitāb al-Mālāṭīs*, and 'The Unmatched Book' (*al-kitāb al-yaṭīm*). Of these, the *Kitāb al-Iṣṭamākhīs* and the *Kitāb al-Mālāṭīs* (or *al-Madūṭīs*), which is described as a commentary on the *Kitāb al-Iṣṭamāṭīs*, still survive, alongside other works with similar-sounding and untranslatable titles, such as the *Kitāb al-Hādīṭūs*, and the *Kitāb al-Ustuwwaṭās* (or *al-Ustūṭās*) which has already been mentioned.¹⁶ Moreover, the subject-matter of all these books is the same: that is, they concern the manipulation of the spiritual forces of the planets through the manufacture of talismans, sometimes accompanying this practical aim with a description of the stages of creation—leading up to the creation of man as a microcosm of the whole universe—in their relation to the spiritual aspects of the cosmos.¹⁷ Most of this material is said to have been revealed by Hermes, and to have been passed on by Aristotle to Alexander. Aristotle is sometimes portrayed asking Hermes a question,¹⁸ but usually he is merely a reporter.¹⁹

Sometimes an account of the translation of these works into Arabic is given. There is a book of Hermes concerning judgements from the rising of Sirius, said to have been translated by a certain Naftouya and 'explained and corrected by Aristotle'.²⁰ We have already seen that the *Kitāb al-Ustuwwaṭās* purports to be translated by Ḥunain ibn Iṣḥāq. One is not surprised to find that, stylistically, the work does not match the genuine translations of Ḥunain, and the whole account of its transmission must be a fabrication.²¹ A work on talismans attributed to Aristotle is said to have been translated by Iṣḥāq ibn Ḥunain, the son of the translator Ḥunain, according to the *Ghāyat al-ḥakīm*.²² Here we read: 'Iṣḥāq ibn Ḥunain also had translated a tract of Aristotle, who truly is the foremost of the Greeks and merits above all men privilege and the first position. I will explain this tract here so that you might obtain the knowledge of all the teaching of the Master'.

The thirteenth-century historian Jirjis ibn al-Amīd Abū'l-Yāsir (known as al-Makīn) was aware of the tradition that Aristotle translated books of Hermes. He claimed that the translations were made from Egyptian into Greek, and mentions the titles and contents of some of them. The names al-Iṣṭamāṭīs and al-Ustūṭās are recognizable among the titles of the books al-Makīn mentions.²³

If we turn to the corpus of Hermetic works in Greek we do not find them associated with Aristotle or Alexander. Hermes might be speaking through his pupil Asclepius, or in dialogue with Thoth, but, amongst all his astrological and magical works in the *Catalogus codicum astrologorum graecorum* and discussed by Festugière in *La Révélation d'Hermès Trismégiste*, not one gives Aristotle the credit for passing on the wisdom of the Thrice-Great.²⁴ However, the relation of the Arabic Hermetica to the Greek is not straightforward. Only one short fragment of the *Corpus Hermeticum* has so far been discovered in Arabic.²⁵ The *Kitāb al-Ustuwwaṭās* includes Arabic transliterations of Greek terms such as *istaḡsat* (στοιχεῖα) and *maghnītīs* (μαγνήτις),²⁶ but this in itself does not suggest that it is translated from Greek.²⁷

Reitzenstein has shown similarities between the creation-story in the *Kitāb al-Ustuwwaṭās* and that in the Pahlavi Bundahisn.²⁸ Moreover, the word that has been translated as 'a talisman' in this paper is not the word *ṭilasm* derived from the Greek τέλεσμα, but *nairanj*, which comes from the Pahlavi word *nīrank* 'magic'. The word *nairanj* is used in more than one sense, but generally refers to an object mixed from organic and/or inorganic substances which is employed as an amulet or talisman.²⁹ In the tenth-century commentary on the ninety-fifth dictum of pseudo-Ptolemy's *Centiloquium* by Aḥmad ibn Yūsuf, reference is made to the 'Persian books of *nairanjāt*'.³⁰ Moreover, in respect to the *nairanjāt* described in Hermes's 'Hidden Book' we see an influence from further afield. For

the twenty-eight mansions of the moon are the *nakṣatrāṇi* of Classical Indian astrology, which became known to the Arabs through the mediation of Pahlavi texts.³¹ David Pingree has described a Greek text, translated from a lost Arabic original, which concerns activities to be undertaken or avoided when the moon is in each *nakṣatra*. This text is based on three authorities, the Indians, Dorotheus, and the Persians. Since Dorotheus's *Carmen astrologicum* was known to the Arabs only in its Pahlavi version, this Greek treatise fairly represents Persian doctrine.³² Moreover, the sections of the text which describe the characteristics of the male and female children born under each lunar mansion correspond exactly to the sections on the same subject in Hermes's 'Hidden Book'.³³ So we have reasonable evidence that at least part of the Arabic Hermetica derived from Persian and ultimately Indian sources.

Further Indian connections for these works may be fictitious. The *Kitāb al-Madīṣ*, for example, purports to describe the *nairanjāt* which the 'Indian spiritualist' Kīnās had invented, and we find the same Kīnās mentioned as the author of a book on *nairanjāt* in Ḥajjī Khalifa's bibliographical dictionary.³⁴ The real or supposed Persian and Indian origin of some of the matter of these Hermetica might have encouraged their assimilation into the correspondence between Aristotle and Alexander which included accounts of the marvels of the East and the wisdom of the Brahmins. For the twelfth-century Arabic-Latin translator, Hermann of Carinthia, Hermes, together with Asclepius, was a pupil of the Indian king Agathodaimon, who, in Hermann's words, 'lived long before Porus, who was a contemporary of Alexander the Great'.³⁵

In that this complex of Hermetic works transmitted under the name of Aristotle contains Indian and Persian elements, it fits in with the cosmopolitan culture of the scholars serving the early 'Abbāsīd caliphs in Baghdad. It may, however, be possible to define its place in this culture more precisely.

In 1883 De Goeje noticed that the names of the spirits of Jupiter in the Oxford manuscript of the *Kitāb al-Iṣṭamākhīs* corresponded with a list of nine names by which Jupiter was invoked by the Sabaeans, according to al-Ṭabarī's description of the practice of the Sabaeans, as related in the *Ghāyat al-Ḥakīm*.³⁶ The Sabaeans, as is well known, were a religious community living in the Syriac-speaking area of Ḥarrān. They believed that God as prime cause was so far removed above humankind that man could only reach him through intermediaries, which were, for them, the planets. They therefore developed elaborate rituals for sacrificing to each of the planets. The two principal prophets of the Sabaeans were precisely the Hermes and Agathodaimon mentioned by Hermann of Carinthia.³⁷ Moreover, according to Ibn al-Nadīm, their scientific speculation was based on the works of Aristotle. It would be quite natural to expect the welding together of the authorities of Hermes and Aristotle to have taken place within such a climate of belief. In a Leiden manuscript, fragments of the *Kitāb al-Uṣṭuwatās* are accompanied by a text called 'The Secrets of the Sabaeans',³⁸ and the connection of the *Kitāb al-Iṣṭamākhīs* with the Sabaeans is corroborated by Maimonides who, in his *Mōreh-haṣ-Nebūkim*, lists among the books of the Sabaeans and alongside a book on talismans attributed to Aristotle, a certain 'Stomachos', which, he says, is falsely attributed to Aristotle.³⁹

An intellectual branch of the Sabaeans established themselves in Baghdad under the leadership of Thābit ibn Qurra (c. 826–901 A.D.). Not only did Thābit write several works in Syriac concerning the religion of the Sabaeans, but also he was one of the leading scientific writers of his age.⁴⁰ It is significant that certain Hermetic writings are attributed to him, and that he is regarded, in particular, as an authority on talismans. A work of his

on talismans is quoted in the *Ghāyat al-ḥakīm*, and exists in a Latin translation.⁴¹ This work in itself shows a curious blend of Aristotelianism and Hermeticism in its opening words:

Thābit ibn Qurra said: Aristotle said that whoever reads philosophy and geometry and every science and is without experience of astrology, will be hindered and obstructed, because the science of talismans is more precious than geometry and more profound than philosophy. Aristotle the philosopher said in the second treatise of his work that just as a body does not move which lacks a soul, nor is there life to the soul unless through the food by which its elements are restored, so those lack the light of science and wisdom who have no experience of astronomy . . . and the most exalted and worthiest part of astronomy is the science of talismans.⁴²

The second citation of Aristotle refers more or less accurately to the second book of Aristotle's *De anima*, a work which was known to the Sabaeans,⁴³ but the first derives from the same reservoir of Hermetic material attributed to Aristotle, as that which supplied the *Kitāb al-Iṣṭamākhīs* and its kindred works. Already in the twelfth century Maimonides was convinced that the *Kitāb al-Iṣṭamākhīs* was not by Aristotle himself, and Ibn Kammuna in the thirteenth century, was of the same opinion.⁴⁴ Nevertheless, this work and its kin were extensively used, and had a considerable progeny. We find traces of these texts in the *Sirr al-asrār* (the *Secret of Secrets*)⁴⁵ and the *Sirr al-khalīqa* (*De secretis naturae*),⁴⁶ both of which were translated into Latin. The *Epistles* of the Brethren of Purity refer to the *al-Iṣṭamākhīs*⁴⁷ and the *Ghāy at al-ḥakīm* quotes from the *Kitāb al-Hādītūs*, *al-Madītūs*, *al-Iṣṭamākhīs* and *al-Iṣṭamāfīs*, always referring to them as 'Aristotle's' books. A work called *Data neiringet* (possibly, *dhāt al-nairanjāt*, 'the essence of the talismans') was known to Hermann of Carinthia,⁴⁸ and a substantial portion of the second book of the *Kitāb al-Uṣṭuwṣaṭās* appears in an abbreviated Latin translation in a fifteenth-century manuscript in the Sloane collection of the British Library.⁴⁹ Beside the book on making talismans according to the position of the moon in its mansions (or the 'Hidden Book') whose tradition was traced above, there is another book on talismans quoted as *Liber Aristotelis de imaginibus* in the margin of pseudo-Ptolemy's *De imaginibus* in a Harley manuscript.⁵⁰ Finally, Albertus Magnus in the chapter concerning talismans in the *Speculum astronomiae*⁵¹ connects two books on the topic with the name of Aristotle. His words deserve to be quoted in full:

Another work on Hermes is his book concerning the four confections for capturing wild animals and wolves and birds. And it is the book of Hermes addressed to Aristotle, which begins: Aristotle said: 'Did you see, O Hermes, etc. . . .' But the very worst book on talismans is the book which Aristotle wrote to Alexander, which begins: If you wish to perceive . . . This is the book which certain people call 'The Death of the Soul'.

The first of these works, which is regarded by Albertus as relatively innocuous, still exists in a manuscript in Montpellier.⁵² But the book known as 'The Death of the Soul', fortunately for our spiritual health, has not been identified.⁵³

NOTES

¹ See Appendix I for an edition of this work. The fullest description of this work up to now is a brief summary of the printed version in M. Steinschneider, 'Zur Geschichte der Uebersetzungen aus dem Indischen ins Arabische', *Zeitschrift der Deutschen morgenländischen Gesellschaft* (hereafter *ZDMG*), 25 (1871), p. 384.

² See B. B. Boyer and R. McKeon, ed., Peter Abailard, *Sic et Non: A Critical Edition* (Chicago, 1976-7), p. 110 (from the *Decretum Gelasii*, chapter five).

³ On the lunar mansions see M. Steinschneider, 'Ueber die Mondstationen (Naxatra) und das Buch Arcandam', *ZDMG*, 18 (1864), pp. 118-201, and D. Pingree, 'The

Indian and Pseudo-Indian Passages in Greek and Latin Astronomical and Astrological Texts', *Viator*, 7 (1976), pp. 141–95 (174–6). The curious fact that a *b* precedes the Arabic definite article in the transliteration of the names of most of the lunar mansions in our text might be due to the erroneous inclusion of the Arabic preposition *bi* 'in', which is combined with the word it precedes in Arabic.

⁴ See Plate 1 and Appendix II. The manuscript containing the compilation—Oxford, Bodleian Library, Or. 133—is described as a whole as the *Kitāb al-bulhān* of Abū Ma'shar (see F. Sezgin, *Geschichte des Arabischen Schrifttums*, VII (Leiden, 1979), pp. 24–5). I am grateful to the Warburg Institute for access to copies of photographs of several folios from this manuscript.

⁵ For example, for al-Sharṭain there is a two-headed animal which may represent a double portent (*sharṭain*); al-Buṭāin is represented by a pot-bellied man (*baṭīn*).

⁶ This is one of the titles given to the work occurring on folios 1–104 of P1aris, Bibliothèque nationale, arabe 25771; see 'Picatrix', *Das Ziel des Weisen von Pseudo-Magīrīf*, translated by H. Ritter and M. Plessner (London, 1962), pp. xiv and 259, and C. S. F. Burnett, 'Hermann of Carinthia and the *Kitāb al-Iṣṭāfīs*', *Journal of the Warburg and Courtauld Institutes*, 44 (1981), pp. 167–9. The *Kitāb al-Uṣṭuwatīs* is also the apparent source of the passage on the lunar mansions in the *Rasā'il of the Ikhwān al-Ṣafā'* (ed. Beirut, Dār Ṣādir, 1957, vol. 4, pp. 428–46; see I. R. Netton, *Muslim Neoplatonists: An Introduction to the Thought of the Brethren of Purity* (London, 1982), pp. 51–2 and 121, n. 145). The Ikhwān give as their source 'the companion al-Asṭīṭās' and the passage is a slightly abbreviated version of that in MS P, with the addition of the degrees and sevenths of a degree of each mansion, as in the Tegernsee text. 'Hermes on the talismans for the twenty-eight mansions' in Vat. Reg. lat. 1283, folios 23v–24v (in Spanish) and a longer text on the same subject in the *Ghāya* (ed. pp. 14–23, tr. pp. 15–21) do not seem to be derivable from the *Kitāb al-Uṣṭuwatīs*, and do not give Aristotle as an authority. I have not been able to consult the manuscripts of the *Kitāb Aristāfātīs al-Ḥakīm*. . . *fi tadbīr manāzil al-qamar* and the *Mushaf al-qamar of 'Aristotle'* referred to by F. Sezgin in *Geschichte des arabischen Schrifttums*, VII (Leiden, 1979), pp. 62 and 63.

⁷ P, fol. 24r.

⁸ A translation of the passages on the first two lunar mansions in MS P is given in Appendix III.

⁹ P, fol. 38r. An attempt to sort out the different titles and introductions occurring in the work in Paris, BN ar. 2577, was made in Burnett, art. cit., p. 169, n. 13.

¹⁰ See I. Düring, *Aristotle in the Ancient Biographical Tradition* (Göteborg, 1957), p. 286.

¹¹ Düring, *passim*, and pp. 469–74.

¹² Ibn al-Nadīm, *Fihrist*, ed. G. Flügel, 2 vols (Leipzig, 1871–2), I, p. 247, translated by B. Dodge, 2 vols (New York and London, 1970), II, p. 595.

¹³ Ed. Flügel, I, pp. 248–52; tr. Dodge, II, pp. 598–606.

¹⁴ Ibn Abi Uṣaibi'a, *Uyūn al-anbā' fi tabaqāt al-aṭibbā'*, ed. A. Müller, 2 vols (Königsberg, 1884), I, pp. 68–9.

¹⁵ *Risāla fi tabā'ī al-'ālam*, possibly the *De mundo* which was addressed to Alexander. This work, however, may already be mentioned with the Arabic title 'The Golden Letter', earlier in Uṣaibi'ah's list.

¹⁶ See M. Ullmann, *Die Natur- und Geheimwissenschaften im*

Islam (Leiden, 1972), pp. 374–5.

¹⁷ A summary of this cosmogony, from MS P, is given in R. Reitzenstein and H. H. Schaeder, *Studien zum antiken Synkretismus* (Leiden, 1926), pp. 114–18.

¹⁸ e.g. P fol. 22v: 'Aristotle said: "I asked Hermes the Wise which hours of the night and the day were best for making (talismans)"'.

¹⁹ The typical formula is *qāla Aristāfātīs qāla Hirmis* ('Aristotle said Hermes said . . .').

²⁰ See E. Blochet, *Études sur le gnosticisme musulman* (Rome, 1913), p. 76.

²¹ I am grateful to Dr F. W. Zimmermann for pointing this out to me.

²² Pseudo-Magīrīf, *Das Ziel des Weisen*, ed. H. Ritter (Leipzig, 1933), p. 326; translated by H. Ritter and M. Plessner, p. 339.

²³ See the English translation of the Ethiopic version of al-Makīn's *Universal History*, made by E. A. Wallis Budge, in *The Life and Exploits of Alexander the Great* (London, 1896), pp. 383–5 and the corrections to this translation made by M. Plessner in *Orientalische Literaturzeitung* (1925), p. 912.

²⁴ A.-J. Festugière, *La Révélation d'Hermès Trismégiste*, 4 vols (Paris, 1944–54). The nearest one gets to this association is a work on planetary plants based on Hermes and attributed to Alexander: see *Catalogus codicum astrologorum graecorum*, IV, pp. 134–6, and D. Pingree, 'Some of the Sources of the *Ghāyat al-ḥakīm*', *Journal of the Warburg and Courtauld Institutes*, 43 (1980), p. 6.

²⁵ This is the extract given by Stobaeus, no. I.1, and edited and translated by A. D. Nock and A.-J. Festugière in *Corpus Hermeticum*, 4 vols, 2nd ed. (Paris, 1960), III, pp. 2–3. Arabic and Hebrew translations of this extract have been identified by F. Rosenthal in 'Sayings of the Ancients from Ibn Durayd's *Kitāb al-Mujānā'*, *Orientalia*, 27 (1958), pp. 29–54, 150–83 (54 and 183), and P. Fenton in 'Gleanings from Mōshē ibn 'Ezra's *Maqālat al-Ḥadīqa*', *Sefarad*, 36 (1976), pp. 285–98 (298).

²⁶ P, folios 3r and 61r respectively.

²⁷ Ursula Weisser's conjecture that material from the *Kitāb al-Iṣṭāfīs* was borrowed by the author of the *Sirr al-khalīqa* at a 'pre-Arabic' stage (*Das 'Buch über das Geheimnis der Schöpfung' von Pseudo-Apollonios von Tyana* (Berlin and New York, 1980), p. 69) has been questioned by F. W. Zimmermann in his review of Weisser's work for *Medical History*, 25 (1981), pp. 439–40.

²⁸ *Studien zum antiken Synkretismus*, pp. 118–19.

²⁹ See *Picatrix*, translated by Ritter and Plessner, p. 253, n. 3. I have adopted the vocalization *nairanj* rather than *niranj* (which is used by Ullmann in *Die Natur- und Geheimwissenschaften*, p. 363), because this is the spelling consistently employed in MS P.

³⁰ See R. Lemay, 'Origin and success of the *Kitāb Thamara* of Abū Ja'far Aḥmad ibn Yūsuf ibn Ibrāhīm', *Proceedings of the First International Symposium for the History of Arabic Science*, 2 vols (Aleppo, 1978), II, pp. 91–107 (93).

³¹ See Pingree, 'Indian and pseudo-Indian passages', pp. 174–6.

³² See Pingree, *ibid.*, and Pingree, 'Some of the Sources of the *Ghāyat al-ḥakīm*', *Journal of the Warburg and Courtauld Institutes*, 43 (1980), pp. 1–15 (8). The Greek text is found in Oxford, Bodl., Cromwell 12, pp. 402–14, ed. S. Weinstock in *Catalogus codicum astrologorum graecorum*, IX.1 (Brussels,

1951), pp. 141–56.

³³ See Appendix III.

³⁴ Ullmann, *Die Natur- und Geheimwissenschaften*, pp. 367 and 375.

³⁵ Hermann of Carinthia, *De Essentiis*, edited by C. S. F. Burnett (Leiden, 1982), pp. 82 and 247.

³⁶ M. J. De Goeje and R. Dozy, *Nouveaux documents pour l'étude de la religion des Harraniens*, Actes du Sixième Congrès international des orientalistes, 1883, 2nd part, section 1 (Leiden, 1885); see *Das Ziel des Weisen*, ed. Ritter, p. 209; tr. Ritter and Plessner, p. 221.

³⁷ See J. Hjärpe, *Analyse critique des traditions arabes sur les Sabéens Harraniens* (Uppsala, 1972), pp. 164–8.

³⁸ Leiden, Or. 1235, fols 9r–16r = P fols 82 *et seqq.*; on fol. 38v there begins a *Kitāb asrār al-Ṣab(i')a* (see 'Picatrix', *Das Ziel des Weisen*, tr. Ritter and Plessner, p. 206, n. 3).

³⁹ See D. Chwolsohn, *Die Sabier und der Sabismus*, 2 vols (St Petersburg, 1856), II, pp. v–vi and 461.

⁴⁰ For the Sabaeen writings of Thābit see Chwolsohn, *Die Sabier*, II, pp. i–ii.

⁴¹ *Das Ziel des Weisen*, ed. Ritter, p. 37 (*maqāla fi'l-filasmāt*); tr. Ritter and Plessner, p. 35. The *Ghāya* gives a quotation from the opening of the work which exists in full in a Latin translation called Thebit, *De imaginibus*, made by John of Seville; see L. Thorndike, 'Traditional Medieval Tracts concerning Engraved Astrological Images', *Mélanges Auguste Pelzer* (Louvain, 1947), pp. 217–74 (229–233). Thorndike prints the translator's preface and the opening paragraphs. The whole text is edited, in two versions, by F. J. Carmody in *The Astronomical Works of Thābit b. Qurra* (Berkeley, 1960), pp. 180–97.

⁴² *De imaginibus*, ed. Carmody, p. 180.

⁴³ *De anima*, II, 1 and 4. See Ibn al-Nadīm, ed. Flügel, I, p.

320 and tr. Dodge, II, p. 750 for the Sabaeans' use of the *De anima*.

⁴⁴ See Ullmann, *Die Natur- und Geheimwissenschaften*, pp. 364–5.

⁴⁵ The section on talismans in the *Sirr as-asrār* (another work addressed by Aristotle to Alexander) is very similar in the rituals it prescribes to MS P, and the 'Royal Talisman' (*Secretum Secretorum, Opera hactenus inedita Rogeri Baconi*, v, ed. R. Steele (Oxford, 1920), pp. 257–8) corresponds in many details to the most efficacious ring of Jupiter in P, fol. 69v.

⁴⁶ See U. Weisser, *Das 'Buch der Geheimnis der Schöpfung'* (Berlin, 1980), pp. 68–9, and *idem*, 'Hellenistische Offenbarungsmotive und das Buch "Geheimnis der Schöpfung"', *Journal for the History of Arabic Science*, 2 (1978), pp. 101–25.

⁴⁷ Ullmann, *Die Natur- und Geheimwissenschaften*, pp. 374–5. See also n. 6 above.

⁴⁸ *De essentiis*, 72vD (Ed. C. S. F. Burnett, p. 182).

⁴⁹ Sloane MS 3854; see Burnett, 'Hermann of Carinthia and the *Kitāb al-Isāmāṭis*', pp. 168–9.

⁵⁰ British Library, Harley MS 80, fols. 76r–77v.

⁵¹ Albertus Magnus, *Speculum astronomiae*, ed. S. Caroti, M. Pereira, S. Zamponi and P. Zambelli (Pisa, 1977), chapter eleven.

⁵² Montpellier, Bibliothèque de l'Ecole de Médecine, MS 277, fols 64–5 (L. Thorndike and P. Kibre, *A Catalogue of Incipits of Medieval Scientific Writings in Latin* (London, 1963), col. 449).

⁵³ I am grateful to Ahmed Talib al-Hamdi and Haytham Bayasi for advice on the translation of Arabic passages used in this paper, and to Professor David Pingree of Brown University for comments.

APPENDIX I

Pseudo-Aristotle, *De Luna*

* The work attributed to Aristotle concerning the lunar mansions apparently exists in three manuscripts and one printed source:

T Munich, Bayerische Staatsbibliothek, clm 18927, 13th c. (from Tegernsee Abbey), fols 129r–129v.

M Madrid, Biblioteca Nacional, 10053, 13th c., fol. 32vb.^a

K Copenhagen, Gl.Kgl.Saml., 3499, 15th c., fols. 92v–95v.^b

L P. Liechtenstein, *Sacratissime astronomie Ptholemei liber diversarum rerum* (Venice, 1509), fols 13r–13v.

^a This manuscript is described fully in J.-M. Millás-Vallicrosa, *Las Traducciones orientales en los manuscritos de la Biblioteca Catedral de Toledo* (Madrid, 1942), pp. 180–202.

^b The work on fols 92v–95v is described as *Liber ymaginum lune qui dicitur liber lune*. K gives an extensive preface which is not shared by TML, and which affirms the authorship of Hermes. The second half of the entry for each lunar mansion in K corresponds with the second half of the entries in TML, while the introductory paragraph in TML

('Aristoteles plenior sensibus (artibus K) gratia dei ubicumque') is added after entries for all twenty-eight lunar mansions in K on fol. 95v. K therefore appears to be a composite work whose relationship with other works described as 'Hermes, *Liber Lune*' needs further investigation (see L. Thorndike, 'Traditional Medieval Tracts Concerning Engraved Astrological Images', *Mélanges Auguste Pelzer* (Louvain, 1947), pp. 238–41).

In TML the *De Luna* follows, as a kind of appendix, the *Iudicia* of pseudo-Ptolemy.^c In K the work is preceded by Thābit's *De Imaginibus*, on fols 86r–92v. The edition below is based on TL. The translations of the names of the lunar mansions are found only in L, but are virtually the same, as far as they go, as those found in Agrippa von Nettesheim, *De occulta philosophia*, ii, chapter 33.^d

De luna secundum Aristotilem

Aristotiles plenior sensibus dixit:

Selini clare videtur habere astra .xxviii. per que transgreditur

et per unumquodque astrum stat horis .xxiv.. Propterea sic ordinans,

- 5 ut inferius prospicies, nomina locorum clare nominando monstravit, et quicquid in locis continetur ostendit gratia dei ubicumque.

1 Arietis .xiii. gradus minus una septima.

Quando vadit selini, id est luna, sartan, fac pro amore, (non) vestimentum novum induas, neque coram potestatibus huius mundi /T 129v/

- 10 vadas. Si autem aliquis uxorem acceperit, amor est inter utrosque. Compara, non semines, neque negocium facias. Ulli medicari non incipias, neque aliquam viam incipias. Si natus infans aut mulier, luxuria habundabunt.

2 Arietis .xxvi. gradus minus duas septimas.

- 15 Quando descendit albotaim, fac ad amorem dominatorum terre, idola conflat, angelos ad te clama, coram dominis terre intra. Uxorem non accipias, non compares, non novum vestimentum induas. Si quis natus fuerit, erit bonus, sapiens; femina erit meretrix.

3 Arietis quattuor ultimi gradus minus duas septimas et Tauri .ix. gradus minus (tres) .vii.

- 20 Cum autem hec astra pertransit, fac causa amoris, idolum fac, iter incipe. Ante dominum intra, angelos iube venire, uxorem accipe. Compara, novam vestem induc. Si masculus aut femina natus fuerit, dives erit.

4 Tauri .xxii. gradus minus duas septimas.

- 25 Ut autem descenderit beltubran, fac pro inimiciis, non intres ante dominum, compara, vestem novam induas. Non semines, non accipias uxorem, non incipies iter. Si quis natus fuerit, erit cupidus, malus; femina similiter.

5 Cum vero descenderit belcata, venenum fac, idola conflat, angelos flagitta. Non semines, uxorem non accipies.

- 30 Si masculus fuerit natus, malus erit; femina bona.

^c For manuscripts of this work (incipit: 'Signorum alia sunt masculini generis . . .') see C. S. F. Burnett, 'The Contents and Affiliation of the Scientific Manuscripts written at, or brought to, Chartres in the time of John of Salisbury', in *The World of John of Salisbury*, Studies in

Church History, Subsidia, iii ed. M. Wilks (London, 1984), p. 134, n. 28.

^d See M. Steinschneider, 'Ueber die Mondstationen', *ZDMG*, 18 (Leipzig, 1864), p. 152 and Table I.

III

92

6 Si intraverit belcamina, fac ad amandum atque idola. Uxorem accipe, compara, intra ad regem, semina, viam incipe.

35 Si vir vel mulier natus fuerit, boni erunt.

7 Ut intraverit alchiraon, fac pro amore, intra ante dominum, semina, compara, vende, viam cape.

Si quis natus fuerit, erit bonus et sapiens.

40 8 Cum vadit besulle, venenum fac et scandalum atque idolum. Non novam vestem induas. Iter fac, intra ante dominum terre, semina.

Uxorem non tollas, non compares.

Si quis natus fuerit, periculosus in via erit; si femina, amabitur ab omnibus.

45 9 Ut autem descenderit baltarfa, fac scandalum, linguam liga cuivis. Novam vestem non induas, ad imperatorem non intres, uxorem non accipias. Non compares, non vadas ad bellum. Si quis natus fuerit, fornicator erit.

10 Cum vadit belabe, absolve ligamenta, idolum fac, ad regem intra. Semina, uxorem accipe.

50 Si quis natus fuerit, fiet absque veritate; si femina est, absconse nubere amat.

11 Cum autem pertransit beldebra, fac pro amore, idolum fac, coram domino intra. Semina, compara. Vestem novam induas.

Si aliquis natus fuerit, bonus fiet et prosperitas illum sequitur.

55 12 Quando ierit belsarf, flagitta scandalum. Non semines, non intres ante dominum, non emas. Novas vestes non induas, viam vade. Si natus fuerit homo, est dissimilis spiritu; si femina est, mala lingua est.

60 13 Et ut ierit belugua, fac pro amore, semina, non preliare. Intra ante dominum terre, viam perge.

Si aliquis homo natus fuerit, malus; femina amatur ab omnibus.

14 Quando descendit belscemel, fac pro scandalo, non semines. Non intres ante dominum, non comparas, non incipias iter.

Si homo natus fuerit, raptor et malus est.

In the margin L gives the following equivalents:

1. Sarcan, id est cornua Arietis
2. Albotaim, id est venter Arietis
3. —
4. Beltubran, id est oculus Tauri
5. Belcata, id est caput validi canis
6. Belcamina, id est stella parva
7. Alchiraon, brachium Leonis
8. Belsule, id est nebula.

9. Baltarfa, id est oculus Leonis
10. Belabe, id est frons Leonis
11. Beldebra, id est capillus Virginis
12. Belsarf, id est cauda Leonis
13. Belugua, id est canis
14. —

1. Sententia Aristotelis de luna 14 continens capitula de imaginibus fabricandis pro diversis rebus L; 2. sensibus] artibus L; astra] T om.; que] scripsi, quas LT; transgreditur] terras graditur L; 5. inferius] in suis T; ostendit] ostendē L; 7. una] T om.; id est] idem L; non addidi; 10. autem] aut L; 11. Compara] Corpora T; incipis L; 13. infans aut mulier] fuerit infans L; habundabit in L; 16. confla] consta L; 18. quis] aliquis L; erit] L om.; 19. ultimi] T om.; duas] tres L; septimis L; et Tauri— .vii.] L om.; 20. tres addidi; 21. fac (2)] L om.; 24. dives erit] erunt dives L; 25. Tauri—septimas] L om.; 20. descendit L; inimici L; 27. seminas L; 29. erit] L om.; 30. descendit L; confla] scripsi, sfla T, L om.; 32. erit] extra L; 33. belcamina] belcata T; accipe] add. et L; 35. vir] homo L; boni] bonus T; 39. besulle] bestrule T; 40. ante] ad T; 42. via] una L; 44. fac] L om.; cuivis] L om.; 48. belabe] bekibe T; 50. quis] L om.; 52. heldebra L; fac (2)] L om.; 54. aliquis] quis L; fiet] erit L; 56. novam vestem L; 59–64. T om.

APPENDIX II

The Lunar Mansions in the Kitāb al-bulhān (Bodleian, Oriental 133, fol. 27v)

The Account of the Description of the Twenty-eight Mansions of the Moon:

1. Al-Sharṭain. When the Moon lodges in it, then make in it talismans of love between women, and do not put on new clothing in it, and do not approach kings in it, and deal with its spiritual forces for hatred. Whoever is born, if he is male, the outcome for him is not good; and if she is female, she will be secretly (dissolute). (*illustration of a two-headed portent*)
2. When the Moon lodges in al-Buṭain, then make in it talismans of love for kings, but not for women, and make in it amulets, and approach in it kings [and kings] and Emirs, and do not put on new clothing in it. Whatever male is born in it, he will have many enemies, and if she is female she will be immoral, disgraced and hated by men. (*illustration of a pot-bellied man*)
3. When the Moon lodges in al-Thurayyā, then make in it talismans of love and the loosing of the bound, and the loosing of () and approach kings and dignitaries () in it, and build buildings in it. Whatever male or female is born in it, they will be good and beautiful () and chosen for marriage. And Allah will make it known. (*illustration of a candelabra*)
4. When the Moon (lodges in) al-Duburān, then make in it (talismans of) hatred and enmity, and do not (approach) in it kings and dignitaries (and do not) rebuild in it, and do not plant and do not travel. Whoever (is born, if he is male, the outcome) will not be good, and if she is (female) she will be immoral and men will not love her. (*illustration of buttocks*)

5. When the Moon lodges in al-Haq'a, then make in it talismans of _____, do not sow and do not build, and do not _____ not good, and put on new clothing _____ travel. Whoever is born _____ favoured among men. (*illustration of a mythical creature*)

6. — (*illustration of a mythical creature*)

7. — (*illustration of the forearms*)

8. When the Moon lodges in al-Nathra, then make in it talismans of enmity and hatred, and do not put on new clothing in it, and travel in it, and approach kings in it, and do not marry and do not buy and do not sell. Whatever male is born in it, he will be hated and slandered among men. and if she is female she will be favoured among men. (*illustration of a rose with four heads growing from it*)

9. When the Moon lodges in al-Ṭarf, then make in it talismans of enmity and bind in it desire, and do not put on new clothing in it, and do not approach kings in it, and sow. Whatever male or female is born in it, they will be unfortunate, wicked, disgraced, not of good conduct. And Allah will make it known. (*illustration of the tail-end of a creature*)

10. When the Moon lodges in al-Jabha, then make in it talismans for the loosing of desire, and make in it amulets, and approach kings in it, and marry and do not put on new clothing in it. Whatever male is born in it will be sly and if she is female she will have a good nature. And Allah will make it known. (*illustration of the forehead of a lion*)

11. When the Moon lodges in al-Zubra, make in it talismans for love and affection, and approach kings in it, and marry and do not put on new clothing in it and do not travel, and dispatch spies in it, and make foundations for a building in it, and solitude with women will be good in it. And Allah will make it known. (*illustration of a piece of iron?*)

12. When the Moon lodges in al-Ṣarf, then make in it talismans of enmity, and make in it amulets, and do not approach kings and do not marry, and do not put on new clothing in it, and travel in it, and in it there is well-being. Whatever male is born in it will be loved, and if she is female she will be immoral. And Allah will make it known. (*illustration of turning-away*)

13. When the Moon lodges in al-ʿAwwā, then make in it talismans of love and encounters with dignitaries, and put on new clothing in it. Whatever male is born in it, will bring fortune to his family and to himself, and if she is female, she will be intelligent, favoured among men. And Allah will make it known. (*illustration of a barking dog*)

14. When the Moon lodges in al-Simāk, then make in it talismans of enmity and _____ and lethal poisons, and do not marry. Whatever male or female is born in it, they will be unfortunate and of bad conduct, slandered in their action. And do not approach kings in it. And Allah will make it known. (*illustration of two fish*).

APPENDIX III

*Examples of the Lunar Mansions in the Hidden Book quoted in the Kitāb al-Ustuwwaṭās
(Paris, Bibliothèque nationale, ar. 2577, fol. 24r)*

Aristotle said: I found in the Hidden Book on the course of the moon in its mansions in the zodiac, matters concerning the government of man himself in his conduct and his affairs together with the technique of *nairanjāt* and their effects. And we describe them in their proper places and context, so that there might be one perfect system and nothing should be found wanting.

Hermes said that the mansions of the moon are twenty-eight, and the stay of the moon in each mansion is twenty-four hours, and that is the completion of a day and a night. If the moon lodges in Sharṭain (this is fiery, a malefic, hit by a benefic), then make in it *nairanjāt* for love and affection towards women in particular, and do not put on new clothes on this day. For whoever puts them on when the moon is in this mansion, runs the risk of injury from which he will die, or whoever does this will be close to death. And do not enter the presence of kings on this day, and do not try to seek their patronage, and do not make contact with them. For whoever makes contact with them on this day, will be punished and killed as soon as he makes contact, and whoever calls on them will arouse against himself the spirit of anger in their hearts, and whoever seeks their patronage, will not be lucky with them, and they will quickly bring the harm of punishment to him.

He said: If anyone marries on this day, the wife will be loved by the husband, and the husband by the wife, and they will fulfil each other. And buy slaves and riding animals and women and cows and plant trees on this day and build houses, for the outcome of all this will be entirely praiseworthy. But do not seek to make friends on this day with anyone from whom you seek a lasting intimacy, for those who love will not be lucky. Do not establish anything on a day like this, and do not buy any stored goods for trade, for that will be unfortunate in its outcome. And do not use any spiritual cures or medicine, and do not travel on this day. Do not sow and do not make amulets or invocations on it. Do not practise the Art nor any of its effects on it.

He said: *Whoever is born on this day, if he is male, he is wicked, immoral and a spendthrift, and he will not be praised for anything. If the child is female, she is immoral, concealing her dissolute life, a favourite among men, and desirous of them.*

(2) Al-Buṭāin (fortunate, hot and dry). When the moon lodges in it, then make in it *nairanjāt* for affection and love towards kings and the common people and any man you wish, but certainly not towards women. Make amulets in it and the four liberating *nairanjāt* found in the large book *al-Iṣṭamākhīs*, and practise the Art and invoke the spiritual force in it. Approach kings in it and do not hesitate to ask for their patronage and make contact in it with the brethren, and begin a friendship between them and yourself.

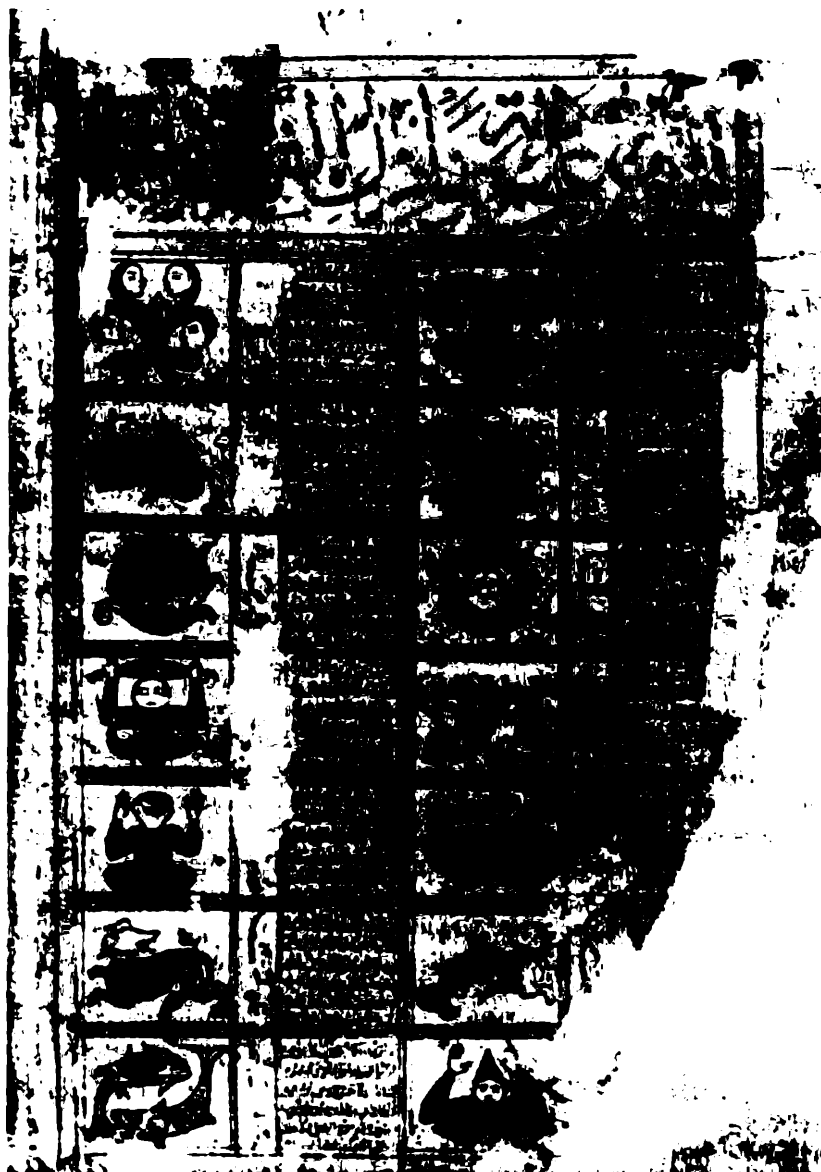
He said: Do not marry in it, and do not buy slaves or any live animal which you wish to keep, and do not buy in it anything for trade, for you will not be able to get rid of it. Do not put on new clothing, for whoever does this will risk being killed on that day. Sow in it, but do not measure your crops. For if anyone measures his crops in it, destruction and ruin will come to them quickly.

III

96

Whoever is born on that day, if he is male he will be good, pious, able to keep secrets, praised for his conduct and good in his way of life. If the child is female, she will be immoral, dishonoured, evil in her conduct and hated among men.

(The italicized passages correspond to the predictions in the Greek text on the lunar mansions in Oxford, MS Cromwell 12, edited by S. Weinstock in *Catalogus Codicum Astrologorum Graecorum*, IX.1 (Brussels, 1951), pp. 141–56.)



The Lunar Mansions; MS Oxford, Bodleian Library, Oriental 133, fol. 27v. [see p.84]

IV

THE TRANSLATING ACTIVITY IN MEDIEVAL SPAIN

I

In considering the translating activity in respect of Islamic Spain I shall mainly be looking at Islamic Spain from beyond its borders. Adventurers and scholars were attracted to al-Andalus because of the splendour of Islamic culture and the superiority of Arabic learning. The spoil of the Christian reconquest was not only silks and damask, but also valuable manuscripts. Refugees from Muslim-dominated areas and the intelligentsia who remained in cities reconquered by the Christians were able to impart to those who had been educated in Latin schools the scientific knowledge of a superior culture and to act as interpreters of Arabic texts. Important, too, were the Jewish communities in al-Andalus which absorbed much of Arabic scientific culture and remained largely undisturbed after the Christian reconquest.¹

Translation, of course, had been taking place at all levels of society within Islamic Spain. The community was multilingual. The official language of the government and of higher education was the literary Arabic of the Quran. Occasionally the colloquial Arabic would be written down—for example, in the poetic form known as the *zajal*. However, the majority of the populace spoke a Romance language. This is apparent in another poetic form which originated in Spain—the *muwashshah*—in which the refrain (*kharja*) is sometimes in a Romance dialect.² This refrain is usually sung by a girl: it is significant that the vernacular should be regarded as appropriate to wives and daughters. Another vernacular was the dialect (or rather, dialects) of the Berbers who had come across the Straits of Gibraltar in large numbers with their Arabic leaders. Berber words occur in surprising places, such as in the names of one set of the sixteen figures used in the form of divination called “geomancy”, and in the earliest European names for the “Arabic” numerals.³ Beside Arabic, Latin continued in use as the language of the Church.⁴ Many educated Christians, however, adopted the literary language of the Muslims, and incurred disfavour for doing so from the more fanatical of their brethren. Finally the Jewish population still used Hebrew alongside Arabic. Having no special regard for the Arabic of the Quran, they wrote Arabic as they spoke it (while using the Hebrew script), so giving further evidence of the dialect of Arabic used in al-Andalus. The Christian, Jewish and Islamic societies were largely self-governing and had their own laws and judges. However, on many occasions there must have been a need for interpreters. At least one judge for the Christian community in Córdoba also served as their interpreter.⁵

This multilingual society was inherited by the Christian rulers of Spain. One can see this by the number of legal documents in which both Arabic and Latin occur, the Arabic often being a translation or summary of the Latin text for the benefit of an Arabic-speaking plaintiff or defendant.⁶ Interpreters would have been present at the proceedings. Sometimes they translated the Latin into the Romance vernacular which would have been understood by both parties. For example, at the end of a Latin act issued by the archbishop of Toledo in 1178, there is a note in Arabic indicating that "Jalid ben Solaiman ben Gasan ben Servando" and "Domingo Salwat" had heard the archdeacon repeat in "Roman" the text of the act.⁷ The Muslim community (Mudejars) would continue to use Arabic script even when the Romance language became their mother tongue, so producing the literature known as *aljamía*.

Under Islamic domination several Latin texts were translated into Arabic, including a book on agriculture by Columella, a history by Orosius, a "Roman book" on astrology, and (apparently) Isidore's *Etymologies*.⁸ Christians were responsible for making some of these translations, and a large number of works were translated into Arabic specifically for the 'Arabicised' element of the Christian community (though not exclusively, for Muslim scholars also refer to these texts). At least three versions of the Psalms were made, including a verse translation completed by Ḥafṣ al-Qūṭī in 276/889, which was specifically meant to replace the inelegant prose version in circulation at the time. A church calendar was translated and combined with a distinctly Arabic division of the year based on the rising of twenty-eight constellations known as the "lunar mansions", resulting in the *Calendar of Córdoba* (357/967).⁹ Arabicised Christians (called Mozarabs by other Christians) continued to use Arabic under Christian domination and even into the 14th century. This is evident from the number of Latin manuscripts, mainly of Christian content, with Arabic translations or glosses in them. The well-known Arabic-Latin/Latin-Arabic Leiden glossary was most likely written to enable a community whose first literary language was Arabic to understand the Latin rite of the Roman church.¹⁰

Occasionally Arabic glosses appear in scientific and philosophical works; for example, in a copy of the medical encyclopaedia of Oribasius which was in the cathedral library of Chartres in the Middle Ages,¹¹ and an 11th-century manuscript of Boethius's *On Arithmetic* in the monastery of Ripoll in Catalonia.¹² This is significant, for Boethius's work was the most advanced text on arithmetic before the advent of Arabic learning, and Ripoll was the earliest centre outside al-Andalus to show the influence of this learning.¹³ The Mozarab (as he must have been) who wrote Arabic equivalents to Boethius's definitions of the five species of inequality in that Ripoll manuscript was familiar with the technical terms of Arabic mathematics. It was men such as these who would have been conduits through which Arabic cul-

ture reached the rest of Europe. The transmission of this culture and the information that it imparted concerning Islamic Spain will be the focus of our attention in this article.

II

Before the days of mass education and universal literacy the ability to read and the possession of magical powers often merged in the popular imagination. If the books were not directly concerned with the truths of religion, then the gift of understanding them was thought to be due to the inspiration of demons. Scholars who dealt with Islamic science were regarded with particular suspicion. Gerbert d'Aurillac, one of the first Latin scholars to enquire about Arabic science, according to a story current in the early 13th century, "was the best necromancer in France, whom the demons of the air readily obeyed in all that he required of them by day and night, because of the great sacrifices he offered them."¹⁴ These demons taught him how to use an astrolabe.

But to a certain extent the scholars themselves fitted this popular image. In our first encounters with the transmission of Arabic science we find the exact sciences inextricably mixed up with astrology and magic and their transmission hedged with language redolent of a mystery religion. The same scholar would see nothing incongruous in solving a quadratic equation one moment and predicting from the stars whether a man might be killed by falling masonry the next: he might even make a talisman to prevent such a contingency. Thus Adelard of Bath, the early 12th-century English Arabist, translated the raw materials of mathematics—Euclid's *Elements* and al-Khwārizmī's astronomical tables—and also provided versions of an introduction to astrology, a set of astrological aphorisms and a work on making talismans which includes prayers to mice, bidding them to leave a property, and a method for driving scorpions out of his city of Bath.¹⁵

When we turn to the situation in al-Andalus we find scholars associated with both the exact sciences and magic. One of these was Adelard's main authority for the astrolabe, Maslama al-Majrīṭī (ca. 400/1000). It was his revision of the tables of al-Khwārizmī for the meridian of Córdoba that Adelard had translated, and his text on the astrolabe on whose Latin translation Adelard based his own work *On how to use the Astrolabe*. Yet, from an early date, a comprehensive text on magic (*Ghāyat al-ḥakīm*) and another on alchemy (*Ruṭbat al-ḥakīm*) were ascribed to Maslama. Moreover Maslama introduced to al-Andalus the *Letters of the Brethren of Purity* which are heavily imbued with neo-Platonic and Hermetic religio-philosophical ideas, and imply a kind of intellectual brotherhood.¹⁶

The earliest translations from Arabic are in the fields of divination and astrology and those parts of mathematics which prepare the student for these

subjects, such as geometry and astronomy. Western visitors to Muslim towns may have come across crude versions of these techniques. Michael Scot refers to skilled women in the streets and alleys of Tunis who invite newly arrived merchants to ask about their situation, their families and the outcome of their business dealings.¹⁷ Adelard of Bath and his "nephew" had spent a few days with an old sorceress (*anus praestigiosa*) learning how to perform incantations.¹⁸ Others may have been shown or offered an astrolabe. If the "Carolingian" astrolabe described by Destombes is genuine, the artefact may have paved the way for the Latin texts describing its construction and use.¹⁹

Divinatory techniques could have been picked up from Arabs by example rather than through texts. For instance, one could learn how to cast lines of dots randomly on the ground and join them together in pairs in order to form the figures used in "the science of the sand", which became known by the literary Latin term "geomancy".²⁰ Or one could learn how to turn the letters of the names of each of two protagonists in a battle or a contest into numbers, to determine which of them would win.²¹ Or one could learn how to find out hidden things or predict the future by observing various marks on the shoulder-blade of a sheep which had been slaughtered and boiled until the flesh had fallen from the bone.²² Most of these techniques could be learnt with the aid of a good memory or, at most, a sheet of parchment giving the names and meanings of the sixteen geomantic figures, a list of the number-letter equivalents, or a plan of the shoulder-blade with the significations of each of its areas written in.

At some stage, however, more detailed explanations were written down. Our earliest Latin text containing information from Arabic sources happens to be of this kind. It was written in the late 10th century, and is known variously as *Liber Alchandreï*, *Mathematica Alhandrei summi astrologi*, and *Mathematica Alexandri summi astrologi*—all these names implying some connection with Alexander the Great of Macedon.²³ A large part of this text consists of "interrogations" posed by the client and "judgements" given by the astrologer on matters of every-day concern, such as marriage, business dealings, the sex of one's unborn child and the outcome of an illness. The judgement is found by applying to the celestial "places" a number derived from the names of the client and of his mother. This form of judgement is distinctly Arabic, and survives to this day in North Africa.²⁴ The Arabic origin of the text is made explicit by references to "Saraceni" and "the Arabic language". The text includes the earliest Latin form of twenty-eight lunar mansions whose appearance in the *Calendar of Córdoba* has already been mentioned. In fact, the two texts may be contemporary. The *Liber Alchandreï* recalls the polyglot atmosphere of the capital of al-Andalus, for it includes, alongside Arabic names for the zodiac signs and the planets, Hebrew names for the same terms and for the letters in which the names of the client and his mother must be written, and a letter of Petosiris to Nechepso which

was probably translated from Greek in the late Classical period and part of the surviving Latin culture in Spain.

The earliest manuscript of the *Liber Alchandreï* closes with several circular diagrams which show the names of the twenty-eight lunar mansions, their constellations and the number-letter equivalents used in making astrological judgements.²⁵ The numbers here are written in Roman numerals, but in an Italian manuscript of medical works similar circular diagrams are filled with the forms of Arabic numerals which are found on the counters of the abacus associated with Gerbert d'Aurillac.²⁶ Richard Lemay has pointed out that Arabic numerals (which technically should be called "Indian" numerals, and were so called by the Arabs) were used in very restricted contexts in the Islamic world in the Middle Ages. One of these contexts was precisely the form of divination in which numbers were substituted for letters.²⁷ The Western equivalents of the "Indian" numerals are the *ghubār* ("dust") numerals which appear to have originated in Spain since the forms of 5, 6, and 8 are derivable from Visigothic script. Ibn Khaldūn in the 8th/14th century states that the "*ghubār* letters" are used for the *zā'iraja*, or magical circle made up of all kinds of letters and numbers.²⁸ There is, on the other hand, no evidence that Arabic merchants or administrators in Spain made use of *ghubār* numerals.²⁹ It is possible that Gerbert, or one of his followers, got the idea of marking the abacus counters with Arabic numerals from a magical or divinatory context in which numbers were used as ciphers, as they are in the Latin medical manuscript.

The earliest Latin texts on the abacus do not depend on Arabic texts, but the names of the nine different counters which represented the nine digits appear to be Arabic and Berber words for the numerals in distorted forms which suggest an oral transmission.³⁰ This Gerbertian abacus was popular throughout Western Europe during the 11th and early 12th century. It was a teaching tool, enabling students to see how numbers functioned. It was impractical as a calculating instrument for real-life transactions, and was probably never used as such. It was the means, however, by which many European scholars first became aware of Arabic *ghubār* numerals and some of their Arabic names, and, at least for the Abbot of Malmesbury, the instrument itself had been "snatched from the Saracens".³¹

Towards the middle of the 6th/12th century the abacus began to be replaced by a method of calculation with Arabic numerals not marked on counters but written directly on a board thinly covered with sand, or on parchment. This was the algorism, in which the same Arabic *ghubār* numerals were used, and which had been taken, along with the method of calculation, from a single text by al-Khwārizmī—his *On Indian Calculation*.³² Arabic numerals did not cease to have a magical aura; in fact they continued for some centuries to be regarded as a secret code and edicts proscribing their use were promulgated in several cities.³³

The introduction of the algorism is symptomatic of the change in the process of transmission of Arabic science in the 6th/12th century. The transmission acquires a firm literary basis. This is hinted at in the injunction of Ibn 'Abdūn, the jurist writing in Seville in the early years of the century, who forbids the selling of books to Jews and Christians, because they translate them and pass them off as their own compositions.³⁴

III

One of the earliest of these translators was Hugo of Santalla working in the 12th century in Aragon. He dedicated all the works that have dedications to Michael, bishop of Tarazona from the time of its reconquest (513/1119) until 1151. A near Arabic neighbour of bishop Michael was the last of the Banū Hūd dynasty of Saragossa, Sayf al-Dawla. After the fall of Saragossa to the Christians in 512/1118 the Banū Hūd took up residence in Rueda de Jalón, some 55 kilometres from Tarazona. Sayf al-Dawla himself established quite friendly relations with the king of Aragon, Alfonso VII, whose coronation as Emperor he attended. In 534/1140 or 535/1141 he was obliged to relinquish Rueda de Jalón in exchange for some lands near Toledo.³⁵ What is interesting is that he had a library from which bishop Michael was able to choose some works for Hugo to translate.³⁶

The Banū Hūd had a reputation for their patronage of learning. Both the botanist Ibn Biklarīsh and the philosopher Ibn Bājja (Avempace) were in Saragossa. Two members of the dynasty themselves achieved reputations for their remarkable mathematical talents: Aḥmad al-Muqtadir bi-llāh (who ruled from 438/1046 to 474/1081) and his son Yūsuf al-Mu'taman b. Hūd (474/1081-478/1085).³⁷ The latter composed a truly comprehensive book on geometry known as "The Perfection" (*Al-Istikmāl*), which drew on a large number of sources, including Euclid's *Elements* and *Data*, the *Spherics* of Theodosius and Menelaus, the *Conics* of Apollonius, Archimedes' *On the Sphere and Cylinder*, Eutocius's commentary on this work, Thābit b. Qurra's treatise on amicable numbers and Ibn al-Haytham's *Optics*. Probably during the reign of Aḥmad al-Muqtadir bi-llāh, whose renown extended to astronomy and philosophy, a pupil of Maslama al-Majrīṭī called al-Kirmānī (died 457/1065) introduced the *Letters of the Brethren of Purity* into Saragossa.³⁸ Perhaps he too brought Maslama's revision of the tables of al-Khwārizmī from Córdoba to Saragossa, for the lunar visibility tables that survive in Latin only have been recomputed for a latitude which is that of Saragossa.³⁹

Some idea of which texts remained in the library of the Banū Hūd when they moved to Rueda de Jalón can be gauged from the evidence of Hugo's translations. In only one preface does he mention this library (*armarium Rotense*), but that is precisely his preface to a commentary on the tables of

al-Khwārizmī which must have been known in Saragossa (it was also translated by Abraham b. Ezra, a Jewish scholar from neighbouring Tudela).⁴⁰ Hugo goes on to write that the manuscript was found “among the more secret depths of the library” (*inter secretiora bibliotece penetralia*). This suggests a part of the library specially designated for the non-Muslim sciences and magic. One hundred years later the French bibliophile, Richard of Fournival, “kept his ‘secret texts’ (*tractatus secreti*) on astrology, alchemy, and magic in a separate room to which, he claims, only he had access”.⁴¹ Hugo certainly wishes to foster the impression that he is passing on secret knowledge which must not be divulged to other than worthy individuals.

Like his predecessor in Southern Italy, the translator Constantine of Africa, Hugo subsumes his Arabic author’s preface into his own preface, so that it is sometimes difficult to distinguish the words of his source from his own words, where the Arabic origin is unavailable for comparison.⁴² But it is apparent that he is in agreement with the tone of his Arabic authors. In the preface to a large book on horoscopic astrology Hugo, following his source, lists some 125 astrological books, whose gist is preserved in two comprehensive volumes. These, we read, “were placed in the hands of a certain wise and most dependable man (for no access to them was allowed to any unworthy or foolish person); thus neither the translation of these books nor their teaching is further granted either to us or to anyone of this generation except to one who is endowed with complete honesty and philosophical understanding”.⁴³ These are the books whose secret the Arabic author unlocks and Hugo, in turn, reveals to the Latin world.

In his preface to Pseudo-Ptolemy’s *Centiloquium* (astrological aphorisms), Hugo exhorts Michael “not to commit the secrets of such wisdom (*tante sapientie archana*) into the hands of any unworthy individual, or to allow anyone to share in the secrets who rejoices in the number of his books rather than delights in their teaching”.⁴⁴ Again, in another preface, he says he has tried to find amongst the Arabs the four species of divination mentioned (and, incidentally, condemned) by Isidore of Seville: divination respectively by earth, water, air and fire. In encountering the Arabic “science of the sand” he thought he had discovered Isidore’s geomancy (“earth-divination”), and he promises to find and to translate texts on the the other “mancies”.⁴⁵ But secrets could also be found in the shoulder-blades of sheep for (as we read in Hugo’s preface to one of his two translations of an Arabic text on scapulimancy—a preface which incorporates Arabic material) “the rain brings down the secret (*archanum*) of God’s teaching and an interior power into the very plants and herbs of the earth, like the manna of God’s own grace and wisdom, and this secret is transferred to the shoulder-blades of the sheep eating this grass”.⁴⁶

Hugo’s interest in secrets and “mancies” suggests more than idle curiosity; he seems to believe (or at least acquiesce to beliefs stated in his sources)

in the secret society of an intellectual élite . This belief is most fully stated in the preface to the text on geomancy where we read:

God the Creator of things, who founded everything as a new creation without an exemplar, deciding in his mind about the future state of things before their actual coming-into-being, distributes to each man as He wishes what he thinks it right to bestow upon the rational creature from the treasury of His whole being. Hence all created beings, whether rational or irrational or inanimate, show the same obedience to Him, and, although in their lives they have descended to the rank of mortal beings, they venerate Him as a result of unity alone. Holding all things in the form of images before they come into being, He pours a kind of intuitive and intellectual notion of them into the secret place [*arcantum*] of men's hearts. Eventually such a state of creation comes into being that God is able to associate by a kind of bond the foremost and most venerable teachers ... so that all discord having been put aside, the rational or "positive justice" can join them together through an equable bond.⁴⁷

The high-flown language is difficult to follow, but we have here a picture of a special bond between men who have been privileged to receive God's gift of intuitive knowledge. This bond which produces a state of peace in human society is parallel to the bonds which govern and preserve the universe. It is to this latter topic that Hugo's most interesting translation is devoted. This is the *Secret of Creation* of Pseudo-Apollonius, which purports to be Hermes Trismegistus's account of God's creation of the world, and of the origins of minerals, plants, animals and men. Throughout the work there is an emphasis on the idea of an underlying unity in nature and of bonds connecting every level of creation. For all things derive from one substance and one seed. This philosophy is epitomised in the document known as the Emerald Tablet which became the credo of the alchemists and of which the earliest known Latin version is within Hugo's translation of the *Secret of Creation*.⁴⁸

Hugo's text is closest to an Arabic manuscript copied in 485/1092, another Arabic copy of which is still in Spain.⁴⁹ We have no independent Arabic testimony that the *Secret of Creation* was in the library of the Banū Hūd, but it is worth noting that the text comes from the same milieu and shares some of the same Hermetic and neo-Platonic sources as the *Letters of the Brethren of Purity* which were in Saragossa.⁵⁰ In turn, we have no translation of the *Letters* attributed to Hugo. However, there are anonymous Latin translations of at least two of these letters,⁵¹ and further evidence may eventually be found of their influence on Latin scholars in the North of Spain.

IV

Not far from Tarazona was Tudela on the river Ebro. This town had important Jewish and Muslim communities and was the home of the Jewish scholars Abraham b. Ezra (1086-1164) and Judah Halevi (d. 1141).⁵² The translators Hermann of Carinthia and Robert of Ketton are said to have been

working in the region of the Ebro in 1141,⁵³ and could well have been in Tudela; Robert was later canon of the church there. Hermann knew several of the same sources as Hugo, and perhaps also had access to the library of the Banū Hūd. For he knows the works of Theodosius and Archimedes, and made versions of Euclid's *Elements* and al-Khwārizmī's astronomical tables, all of which were apparently in the Banū Hūd's possession. In his major original work, the cosmogony called *On the Essences* (*De essentiis*), Hermann cites the Emerald Tablet from the *Secret of Creation* (he is the only Latin scholar besides Hugo who appears to know the latter work), and refers to several other Hermetic works.⁵⁴ However, in the preface to *On the Essences*, which is addressed to Robert, he makes a significant contrast between the "secrets" (*secreta*) and the "public schools". Robert and he have been labouring together night and day on the "intimate treasures of the Arabs" (*intimi Arabum thesauri*) in the "inner sanctuaries of Minerva" (*adyta Minerve*), and Hermann is now considering whether it is appropriate to make the fruits of their research public. He is afraid of committing the crime of Numenius, who divulged the Eleusinian mysteries and consequently saw the Eleusinian goddesses in a dream dressed as prostitutes available for use to all and sundry. In Hermann's case the Goddess Minerva reassures him—also in a dream—that *her* attributes are not diminished by being made freely available and should be given out liberally.⁵⁵

Whether Hermann's decision to make public the secrets of Arabic science represents a change of policy from that of Hugo depends on how much trust we place in the literary style adopted in these translators' prefaces. It is a fact that Hugo's translations had a very limited diffusion. Hermann and Robert, on the other hand, advertised their work to the highest European authorities of the time. Robert promises to Peter the Venerable, abbot of Cluny, who was responsible for promoting the Cluniac reform of the Christian church in Spain, "a celestial gift which embraces within itself the whole of science"—i.e., a work on astronomy, whereas Hermann sent one of his translations (that of Ptolemy's *Planisphere*) to Thierry of Chartres, the foremost educator in France of the second quarter of the 12th century. In the preface to this translation Hermann sketches a history of astronomy, refers to the basic textbooks on the subject, and advertises three of his own works, and one of Robert's.⁵⁶ Thierry was engaged in compiling an annotated "library" of texts on the seven liberal arts, and included two translations from Arabic, which may be in Robert and Hermann's versions.⁵⁷

A decade or two after Robert and Hermann's project to translate and send to France texts on geometry and astronomy, an even more comprehensive programme of translations was planned and undertaken, this time in Toledo. The motive force for this programme seems to have been an archdeacon resident in Toledo called Dominicus Gundissalinus. Perhaps in reaction to the idea of a secret intellectual élite, Dominicus considers that it is no longer

possible to be a sage (*sapiens*); one can only aspire to be proficient in certain sciences, or at least to know something about a few of them.⁵⁸ To facilitate this he describes each of the sciences in turn in his *On the Sciences*, drawing largely on the translation of al-Fārābī's *Classification of the Sciences* made by Gerard of Cremona.

It is reasonably certain now that Gerard of Cremona worked closely with Dominicus. He is probably to be identified with a "Girardus" described as a deacon in a document of the Cathedral of Toledo of 11 March 1162, and as "Girardus called master" (*Girardus dictus magister*) in two later documents of the Cathedral (March 1174 and March 1176). All three documents are also signed by Dominicus.⁵⁹ Al-Fārābī's *Classification of the Sciences* provided a template for Gerard on which to pattern the programme of his own translations, several of which were used in turn by Dominicus when he adapted al-Fārābī's text into a comprehensive account of philosophy and its parts—*On the Division of Philosophy*—patterned on schemata developed by Thierry of Chartres and his pupils.⁶⁰ With Dominicus and Gerard of Cremona we see not only a high public profile given to translations from Arabic, but also an expansion of the range of texts into medicine and philosophy. Gerard translated several of Aristotle's works and some commentaries on Aristotle by Arabic authors or Greek commentators whose work had been translated into Arabic.⁶¹ On the other hand, Dominicus and his associates Avendauth and Johannes Hispanus translated the works of Arab and Jewish scholars who had summarised and reinterpreted Aristotle's philosophy in the light of neo-Platonic trends—i.e., Ibn Sīnā, Ibn Gabirol and al-Ghazālī.⁶²

The advertisements of Robert of Ketton and Hermann of Carinthia were clearly effective. John of Salisbury regarded the Arabs as being more advanced than the Latins in geometry and astronomy.⁶³ Toledo was the natural place where this Arabic learning could be found. Gerard of Cremona had been attracted to Toledo because of his desire for Ptolemy's *Almagest*, the 2nd-century A.D. textbook on astronomy. Another scholar, Daniel of Morley, tells a more detailed story about how he came to Toledo. He had at first left England to seek learning in Paris, but, disappointed by what he found there and hearing that "the learning of the Arabs" (*doctrina Arabum*), which consisted almost entirely of the scientific works he was interested in, was in vogue in Toledo, he hurried there, and was not disappointed. He recounts a lecture given by Gerard, on astrology.⁶⁴

V

Gerard of Cremona died in 1187. At his death his pupils (*socii*) drew up a list of his many translations from Arabic, since he had been too humble to put his name to many of them.⁶⁵ These *socii* could have included Dominicus and Johannes Hispanus, for the former was still alive in 1181 (and there is no evidence that he died soon after this), and the latter lived until 1215.

The 7th/13th century witnessed a continuation of the translating activity. Two conspicuous elements about this activity should be noted: first, the transmission of the results of the last flowering of philosophy in Islamic Spain; and second, the rise of "official translation", i.e., translation as part of public policy, either to aggrandise the newly emerging Spanish nation, or to convert the Muslim.

To turn to the first of these: Under the Almohads there occurred an Indian summer for philosophy in Islamic Spain. This took the form of a burst of "fundamentalist" Aristotelianism unparalleled elsewhere in the Arabic world.⁶⁶ The central figure is Ibn Ṭufayl (d. 581/1185), the court physician of the Almohad leader in Córdoba and the composer of the philosophical novel *Ḥayy b. Yaqẓān*—the story of an orphan on a desert island who discovers the truths of philosophy and religion entirely by a process of deduction. Ibn Ṭufayl had introduced to the Almohad ruler the philosopher Ibn Ruṣḥd (Averroes, d. 594/1198), and inspired al-Bīṭrījī (Alpetragius) to write his book on astronomy. This book, *On the Movements of the Heavens* (written ca. 600/1200), was a revolutionary attempt to replace Ptolemy's astronomical system with a model which was compatible with Aristotelian physics. Averroes in his turn undertook the most ambitious project ever conceived for interpreting Aristotle: three levels of commentaries for the whole of Aristotle's works, to which a commentary on Plato's *Republic* was added. These consisted of: a) summaries of the texts; b) paraphrases; and c) line by line exegeses.⁶⁷

Andalusi Aristotelianism appears to have had little influence on subsequent Arabic scholarship. Its influence on Latin and Hebrew philosophy and science was, on the other hand, immense. It was in this intellectual climate at Córdoba that the philosophy of Maimonides (d. 600/1204) was formed. And within a few years of their composition the works of both al-Bīṭrījī and Ibn Ruṣḥd were being translated into Latin and Hebrew. The first translations were made in Spain. Michael Scot translated *On the Movements of the Heavens* in Toledo in 1217, five years after the defeat of the Almohads in the battle of Las Navas de Tolosa. To Michael Scot are also attributed the earliest translations of Averroes, which he probably began in Spain, and continued when he moved to Italy in the 1220s.⁶⁸

The radical nature of this new Aristotelianism and its origin in Spain is indicated by the extreme reaction that it provoked in Paris—in particular, the prohibition promulgated in the University of Paris in 1215 against Aristotle's works on metaphysics and natural science, the *summae* of these works (i.e., presumably, the works of Avicenna and Averroes) and the writings of "Mauritius Hispanus", amongst others.⁶⁹ The most plausible explanation of the identity of the latter is that he is Mauritius, archdeacon of Toledo, who sponsored translations of other texts of the Almohads, as we shall see.⁷⁰

The continuation of interest in Aristotelianism in Christian Spain in the 13th century has not yet been explored by scholars, but is evident from the following facts: Alvaro of Toledo (floruit 1267 until after 1286) copied out Michael Scot's translation of al-Bīṭrūjī's *On the Movements of the Heavens* and wrote a commentary on Averroes' *On the Substance of the Globe*. He dedicated the latter to the Archbishop of Toledo, Gonzalo García Gudiel, * who himself had collected several manuscripts of the works of Aristotle, Avicenna and Averroes by 1273.⁷¹ The archbishop commissioned a translation of those books on natural science in Avicenna's *Shifā'* which had not been translated by Dominicus Gundissalinus.⁷²

With García Gudiel we come to the very end of the 13th century. If we retrace our steps we can follow the course of "official translations" through the century. The battle of Las Navas de Tolosa (609/1212) and the subsequent capture of Seville and Córdoba, leaving as the only Islamic kingdom in Spain the vassal state of Granada, gave the Christian bishops and kings a great feeling of confidence. We see at least one archbishop and two kings who produce texts in their own names to further the Hispanicisation and Christianisation of the Iberian Peninsula.⁷³

Rodrigo Jiménez de Rada, Archbishop of Toledo from 1210 to 1247, wrote the *Historia Gothica* and the *Historia Arabum*, both of which rely heavily on Arabic sources.⁷⁴ A canon in his cathedral called Mark was asked by his archdeacon, Mauritius (mentioned above), to translate the Quran and the Profession of Faith of the founder of the Almohad movement.⁷⁵ James the Conqueror, king of Catalonia (d. 1276) was more a warrior than a cultural hero, and added Valencia, Murcia and the Balearic Islands to the kingdom of Catalonia. But he also wrote a unique biography, in Catalan—the *Llibre dels feyts*—and set up a school for training missionaries.⁷⁶

The most remarkable instance, however, is of course that of Alfonso X, "el Sabio", king of León and Castile from 1252 until 1284.⁷⁷ His nationalism is evident in his great law-codes and histories (of Spain and of the world), which build on the earlier histories of Rodrigo Jiménez and even on the Islamic literature translated by Hermann of Carinthia and Robert of Ketton. Above all, it is evidenced by the fact that he chose to use Castilian as the literary language of his court. He was not so interested in Aristotle, but sponsored the translation of texts on magic, the science of the stars, entertaining stories, and games (including chess, draughts and backgammon). Not only was the language of these translations Spanish, but also he made it seem that the authors themselves were Spanish, calling for example the author of the *Ghāyat al-ḥakīm*, "Picatrix Hispanus".⁷⁸ Of course, in a way, they were. The author of *Ghāyat al-ḥakīm*, though not Maslama al-Majrīṭī himself, lived in al-Andalus in the 5th/11th century. One or two of the texts on the science of the stars appear to have been written by the translators themselves. The

absence of any Muslim involvement in the translations is notable. Most of Alfonso's translators were Jews, and those who were not Jews were Christians who sometimes translated the Castilian text into Latin.

VI

What could Europeans learn of Islamic Spain from these translations? It must be said, first of all, that works on philosophy and the exact sciences are not likely to give much information about the society in which they were written. However, an informative introduction to the Islamic religion itself could be gained from reading the texts that Peter the Venerable commissioned in the 1140s from Hermann of Carinthia, Robert of Ketton and Peter of Toledo. These were all translations of Arabic texts on Islam, and included the Quran, a life of Muḥammad, a history of the world from the Islamic point of view from the Creation to the time of the Prophet, an account of the early caliphs, and a debate between a Muslim and a Christian.⁷⁹

For all the extremely negative attitude towards Islam shown by Robert of Ketton in his prefaces, the translations themselves are quite faithful to their originals. Peter the Venerable had attached to his team of translators a Muslim called Muḥammad, presumably to help in matters of doctrine. The translator of the debate between the Muslim and the Christian (the *Apology* of al-Kindī), even left in a sentence in which the caliph al-Ma'mūn, the judge of the debate, comes down in favour of the Muslim.⁸⁰ He considered Christianity to be a religion for enjoying life in the world to come, whereas Islam enabled one to enjoy both this world *and* the next. Unfortunately an early editor of the Latin text erased this approbation of Islam which, consequently, is not found in later manuscripts. Nevertheless the "Toledan collection", as the works commissioned by Peter the Venerable are called, remained a valuable dossier for Westerners wishing to understand Islam. In the 17th century Robert of Ketton's translation of the Quran was still being used by Christian missionaries, and the *Apology* of al-Kindī has become popular in modern times at the interface of Islam and Christianity in North Africa.⁸¹

Other sources for gaining knowledge of Spanish Islamic society are the works of astrology and divination. Richard Lemay has pointed out that in some manuscripts of John of Seville's translation (529/1135) of Abū Ma'shar's * *Greater Introduction to Astrology* (235/849) there are annotations explaining some of the terms used, including: "Note that Abū Ma'shar calls 'aldeas' the habitations (*villulae*) in which the more noble of the Arabs dwell, i.e., the places of tents, since noble Arabs always dwell in tents and not in cities"; the same annotator interprets "cities and halls" (*civitates et aulas*) as *alcasares* (the Spanish word from *al-qasr*, "castle").⁸²

Associated with astronomical tables in two manuscripts of the 6th/12th century is a bilingual Arabic-Latin fortune-telling table which indicates the

activity someone should be engaging in depending on the sign of the zodiac in which each of the planets is situated.⁸³ The activities are all pleasant and presumably recall the recreations of a leisured inhabitant of al-Andalus: e.g., hearing or playing musical instruments (including the *rabāb*, the shawm, the horn, various kinds of drum, and singing), riding through beautiful places, resting in the shade, buying or building a house or guest-quarters, decorating a reception room, buying slippers, smelling roses or irises, entering a bath, wearing multi-coloured clothing or silks or brocade or a long-sleeved gown, hunting ducks or hares and hunting with a falcon, playing with a girl, drinking by a river (either grape-wine—*khamr*, or date-wine—*nabīdh*), and finally eating all kinds of delicious food. These include lamb, chicken, a young dove, partridges, thrushes, dates, a pie made of borage, a cake (*halwā*), aubergines, artichokes, dill, *tafāyā* (interpreted in Latin as “meat with coriander”) and mushrooms.⁸⁴

Other astrological works refer to the best time to learn to play the “lyre” (presumably the *ūd*), the drum (*tanbūr*) and trumpets,⁸⁵ and give advice on digging irrigation ditches, which includes descriptions of the *shadūf* (translated as “stork” in Latin), the *sāniya* or “water scoop”, and the *nā‘ūra* or water-wheel:

In digging beds for irrigation channels, let the Moon be in a good position ... [If all this is done] hindrance from digging the channel is avoided and the abundance and the salubrity of the water is assured ... In making certain machines which are accustomed to be used by certain peoples for drawing up water, and which, because of their appearance, they call in the vernacular [*vulgari nomine*] “storks”, let the Ascendent and the Cardines be firm ... For the manufacture of wheels which the Arabs call *azeniae* or *annorae* the aforesaid method for wells should be followed. Both machines are useful for drawing forth water for irrigating fields.⁸⁶

More immediately relevant to Islamic Spain are the texts on divination by sheeps’ shoulder-blades.⁸⁷ These seem to have been elaborated on Spanish soil. For in both Arabic and Latin texts there are references to Córdoba, Saragossa and other capitals of the *ṭā’ifa* kingdoms of al-Andalus. In one Arabic text the two main divisions of the Arabs in Spain—the family of Fihri and the family of Marwān—are mentioned. In both an Arabic and a Latin text the tribal divisions of the Berbers—the Butri and Barānis—are also named. The texts give intimate details of family life, indicating whether the husband will dominate his wife or *vice versa*, how many servants there are in the house and whether they are black, Arabs or Christians, and have straight or curly hair.

Latin-reading Europeans, however, did not read these texts in order to find out more about Islamic Spain. They were interested in the texts for practical purposes or for making progress in mathematics or philosophy. The Arabs were not mere conduits of Ancient Greek learning. Admittedly, translators were searching out Ancient Greek works and occasionally complained

when they could only find an Arabic translation of a Greek work.⁸⁸ Gerard of Cremona, Robert of Ketton and Hermann of Carinthia were all aiming for the *Almagest* of Ptolemy, Constantine of Africa wanted to introduce to the Latins Galen and Hippocrates. But it was acknowledged that scholars writing in Arabic had developed, added to, or made more accessible, the texts of Antiquity. Understanding the *Almagest* may have been the aim of every aspiring astronomer, but most scholars in the Middle Ages, including Dante, found it easier to use the shorter *Elements of Astronomy* of al-Farghānī.⁸⁹ Ptolemy's *Tetrabiblos* was regarded as the fountainhead of teaching on astrology; yet the works of Abū Ma'shar and al-Qabīṣī were much more frequently copied and cited.⁹⁰ Avicenna's *Sufficiency* (*Shifā'*), as its title implied, provided a full curriculum in philosophy and, partly because it gave clear-cut answers rather than left questions hanging in the air, it was easier to manage than the several books of Aristotle's philosophy and was consequently popular. Averroes, on the other hand, with his three tiers of commentary to each of Aristotle's works, provided a thorough-going method for a detailed study of Aristotle and a model for Latin commentaries from the mid-7th/13th century onwards.⁹¹ A mark of his success is the fact that a far greater number of his commentaries survive in Latin than in the original Arabic.⁹²

The Arabs of the Middle Ages seem to have had a special flair for mathematics, and the Latin translations in this field provide only a dim reflection of the true splendour of the achievements of men like al-Mu'taman b. Hūd or Omar Khayyām.⁹³ The translations did, however, introduce into the West calculation with Arabic numerals, algebra, trigonometry and advanced geometry. In medicine, above all, Arabic works held sway in the Middle Ages. One need only mention the names which became familiar in the Latin forms of Avicenna (this time as author of the *Canon of Medicine*), Rhazes, Mesue, Isaac, and Abulcasim.⁹⁴

Most of these texts had originally been translated in Spain.⁹⁵ Many of them had been written by Muslims (or, to a lesser extent, Christians or Jews) resident in Spain. We have already mentioned Maslama al-Majrīṭī, al-Bīṭrījī, Averroes, and Ibn Bājjā, the last of whose views were known through the commentaries of Averroes. But there were others, such as 'Arib b. Sa'd, who contributed to the composition of the *Calendar of Córdoba*, Abraham bar Hiyya (d. c. 531/1136), the author of a book on trigonometry translated by Plato of Tivoli under the title *Liber embadorum* ("Book of areas"),⁹⁶ the 5th/11th-century mathematician and astronomer Ibn Mu'adh of Jaén whose works on atmospheric refraction (*De crepusculis*) and *Tables of Jaén* were translated by Gerard of Cremona,⁹⁷ and Ibn al-Zarqālluh whose astronomical tables composed for Toledo in ca. 462/1070 became the standard tables in use in Latin translation in the West between the late 12th and early 14th centuries.⁹⁸ But Arabic texts also arrived in al-Andalus from the furthest parts of

the Islamic world, and this, in itself, testifies to the brilliance of the academic society in Islamic Spain. Adelard of Bath had regarded Arabic learning as synonymous with rational thought.⁹⁹ What Hugo of Santalla said of his own subject would have been echoed by many of his fellow Latins concerning other subjects:

It befits us to imitate the Arabs especially, for they are as it were our teachers and precursors in this art.¹⁰⁰

¹ For general accounts of the translation process see M.-T. d'Alverny, "Translations and Translators", in *Renaissance and Renewal in the Twelfth Century*, ed. R. L. Benson and G. Constable, Oxford, 1982, pp. 421-62; C. Burnett, "Some Comments on the Translating of Works from Arabic into Latin in the Mid-Twelfth Century", in *Orientalische Kultur und europäisches Mittelalter*, ed. A. Zinnemann, Berlin, 1985, pp. 161-71, and "Literal Translation and Intelligent Adaptation amongst the Arabic-Latin Translators of the First Half of the Twelfth Century", in *La diffusione delle scienze islamiche nel Medio Evo Europeo*, ed. B.-M. Scarcia Amoretti, Rome, 1987, pp. 9-28; N. Daniel, *The Arabs and Medieval Europe*, London, 1975; D. C. Lindberg, "The Transmission of Greek and Arabic Learning to the West", in *idem* (ed.), *Science in the Middle Ages*, Chicago, 1978; M. R. Menocal, *The Arabic Role in Medieval Literary History*, Philadelphia, 1987; and J. Vernet, *La cultura hispanoárabe en Oriente y Occidente*, Barcelona, 1978. Catalogues or lists of translations are included in F. J. Carmody, *Arabic Astronomical and Astrological Sciences in Latin Translation*, Berkeley, 1955 and L. Thorndike and P. Kibre, *A Catalogue of Incipits of Mediaeval Scientific Writings in Latin*, revised and augmented ed., London, 1963.

² S. M. Stern, *Hispano-Arabic Strophic Poetry*, Oxford, 1974.

³ For Berber involvement in geomancy see F. Klein-Franke, "The Geomancy of Aḥmad b. 'Alī Zūbul: A study of the Arabic Corpus Hermeticum", *Ambix*, 20, 1973, pp. 26-36; "Arabic" numerals are discussed below.

⁴ Roger Wright, *Late Latin and Early Romance*, Liverpool, 1982, pp. 151-63.

⁵ P. S. Van Koningsveld, *The Latin-Arabic Glossary of the Leiden University Library*, Leiden, 1977, p. 57. The judge is Aṣḥab b. Nābil (362/971). Another judge—Ḥafṣ b. Albar al-Qūṭī—was a translator from Latin into Arabic (see below).

⁶ Examples of documents in which Arabic and Latin occur can be found in F. J. Hernández, *Los cartularios de Toledo*, Madrid, 1985, plates 6, 7, 9, 11 and 13.

⁷ M.-T. d'Alverny, "Les traductions à deux interprètes: d'arabe en langue vernaculaire et de langue vernaculaire en latin", in *Traductions et traducteurs au moyen âge*, ed. G. Contamine, *Colloque internationale du CNRS*, Paris, 1989, p. 197.

⁸ Van Koningsveld, *Latin-Arabic Glossary*; J. Samsó, "The Early development of Astrology in al-Andalus", *Journal for the History of Arabic Science*, 3, 1979, pp. 228-43.

⁹ C. Pellat (ed.), *Le Calendrier de Cordoue*, Leiden, 1961.

¹⁰ Van Koningsveld, *The Latin-Arabic Glossary of the Leiden University Library*, Leiden, 1977.

¹¹ Paris, Bibliothèque nationale, lat. 10233 (s. viii).

¹² Ripoll MS 168, fol. 42r; the notes are to the text of Boethius, *De arithmetica*, I. 32.

¹³ J. M. Millás Vallicrosa, *Assaig d'història de les idees físiques i matemàtiques a la Catalunya medieval*, Barcelona, 1931, discussing the texts on the astrolabe in Ripoll MS 225.

¹⁴ Michael Scot, *Liber introductorius*, quoted in L. Thorndike, *Michael Scot*, 1965, pp. 93-94.

¹⁵ For the life and works of Adelard of Bath, see C. Burnett (ed.), *Adelard of Bath: An English Scientist and Arabist of the Early Twelfth Century*, Warburg Institute Surveys and Texts XIV, 1987. Adelard spent some time in Southern Italy, Sicily and, possibly, the Middle East, but probably passed most of his life in the region of the Severn valley in England.

¹⁶ Vernet, *op. cit.*, pp. 32 and 154, and J. Thomann, "The Name Picatrix: Transcription or Translation?", *Journal of the Warburg and Courtauld Institutes*, 53, 1990, pp. 289-96.

¹⁷ C. H. Haskins, *Studies in the History of Mediaeval Science*, 2nd ed., Cambridge (Mass.), 1927, p. 290, n. 114, and Daniel, *The Arabs and Mediaeval Europe*, p. 285.

¹⁸ M. Müller (ed.), Adelard of Bath, *Quaestiones naturales*, Beiträge zur Geschichte der Philosophie des Mittelalters, 31.2, Münster, 1934, p. 53, lines 27-30.

¹⁹ Marcel Destombes, "Un astrolabe carolingien et l'origine de nos chiffres arabes", *Archives Internationales d'Histoire des Sciences*, 58-59, 1962, pp. 3-45. The genuineness of this astrolabe has been discussed at a recent conference in Paris.

²⁰ T. Charmasson, *Recherches sur une technique divinatoire: la géomancie dans l'occident médiéval*, Geneva-Paris, 1980.

²¹ C. Burnett, "The Eadwine Psalter and the Western Tradition of the Onomancy in Pseudo-Aristotle's *Secret of Secrets*", *Archives d'Histoire Doctrinale et Littéraire du Moyen Âge*, 55, year 1988, pp. 143-67.

²² C. Burnett, "Arabic Divination and Celtic Lore: Some Aspects of the Theory and Practice of Scapulimancy in Western Europe", *Cambridge Medieval Celtic Studies*, 6, 1983, pp. 31-42.

²³ Millás Vallicrosa, *Assaig*, pp. 67-40; A. Van de Vyver, "Les plus anciennes traductions latines médiévales (Xe-XIe siècles) de traités d'astronomie et d'astrologie", *Osiris*, 1, 1936, pp. 666-84. This work should be viewed as part of the large body of apocryphal literature couched in the form of correspondence between Aristotle and his royal pupil Alexander the Great; see C. Burnett, "Arabic, Greek and Latin Works on Astrological Magic Attributed to Aristotle", in *Pseudo-Aristotle in the Middle Ages*, ed. Jill Kraye, W. F. Ryan and C. B. Schmitt, London, 1986, pp. 84-96.

²⁴ L. Vecchia Vaglieri and G. Celentano, "Trois Epîtres d'al-Kindi", *Instituto Orientale de Napoli. Annali*, 34, 1974, p. 525.

²⁵ Paris, Bibliothèque nationale, lat. 17868, fol. 16v. The diagrams are reproduced in E. Wick-ersheimer, "Figures médico-astrologiques des IXe, Xe et XIe siècles", *Janus*, 19, 1914, p. 175.

²⁶ Rome, Biblioteca Alessandrina, MS l.f.18, N.171, fol. 3r, reproduced in M. Pasca (ed.), *La scuola medica Salernitana*, 1988, p. 53.

²⁷ R. Lemay, "Arabic Numerals", in *Dictionary of the Middle Ages*, ed. J. R. Strayer, I, New York, 1982, p. 384: "the number of Arabic ... manuscripts that use the Hindu numerals for divination and for magic far exceeds those that deal seriously with mathematics proper".

²⁸ *Ibid.*, p. 385.

²⁹ A. Labarta and C. Barceló, *Números y cifras en los documentos arábigo-hispanos*, Córdoba, 1988.

³⁰ W. Bergmann, *Innovationen im Quadrivium des 10. und 11. Jahrhunderts*, Stuttgart, 1985.

³¹ William, Abbot of Malmesbury, described Gerbert as "the first to snatch the abacus from the Saracens and give it rules for use"; N. Bubnov, *Gerberti Opera Mathematica*, Berlin, 1899, p. 387.

³² A. Allard (ed.), Moḥammed ibn Mūsā al-Khwārizmī, *Le Calcul indien*, Paris-Namur, 1991.

³³ A. Murray, *Science and Society in the Middle Ages*, Oxford, 1978.

³⁴ E. Lévi-Provençal and E. García Gómez, *Sevilla a comienzos del siglo XII*, Madrid, 1948, p. 173.

³⁵ E. Lévi-Provençal, revision of R. Dozy, *Histoire des musulmans*, Leiden, 1932, III, 154, n. 1.

³⁶ Haskins, *op. cit.*, pp. 67-81.

³⁷ J. P. Hogendijk, "Discovery of an 11th-Century Geometrical Compilation: the *Istikmāl* of Yūsuf al-Mu'taman ibn Hūd, King of Saragossa", *Historia Mathematica*, 13, 1986, pp. 43-53.

³⁸ Vernet, *op. cit.*, p. 32.

³⁹ I owe this information to Dr Jan Hogendijk.

⁴⁰ Haskins, *op. cit.*, p. 73; B. R. Goldstein, *Ibn al-Muthannā's Commentary on the Astronomical Tables of al-Khwārizmī*, New Haven-London, 1967.

⁴¹ D. Pingree, "The Diffusion of Arabic Magical Texts in Western Europe", in *La diffusione delle scienze islamiche nel Medio Evo Europeo*, ed. B.-M. Scarcia Amoretti, Rome, 1987, p. 80.

⁴² On Constantine's practice see D. Jacquart, "Le sens donné par Constantin l'Africain au *Pantegni*: les prologues latin et arabe", in *Constantine the African and 'Alī ibn al-'Abbās al-Majūsī*, ed. C. Burnett and D. Jacquart (in press).

⁴³ C. Burnett and D. Pingree (eds.), Hugo of Santalla, *Liber Aristotilis* (in preparation), Prologue, sentences 42-43.

⁴⁴ Haskins, *op. cit.*, p. 70.

⁴⁵ Preface to his *Art of Geomancy*, edited in Haskins, *ibid.*, pp. 78-79.

⁴⁶ Burnett, "Arabic Divination and Celtic Lore", p. 35.

⁴⁷ Haskins, *op. cit.*, p. 78.

⁴⁸ C. Burnett, "Hermann of Carinthia", in *A History of Twelfth-Century Philosophy*, ed. P. Dronke, Cambridge (England), 1988, pp. 398-400.

⁴⁹ U. Weisser (ed.), Pseudo-Apollonios von Tyana, *Buch über das Geheimnis der Schöpfung und die Darstellung der Natur*, Aleppo, 1979, pp. 10-12 and 30.

⁵⁰ For example, both cite the Hermetic book *Kitāb al-istamāṭis* and both have a detailed account of the development of the embryo according to the influence of the planets.

⁵¹ I.e., the letter on logic (*Posterior Analytics*), Beirut edition, I, 429-52, Latin version in A. Nagy, *Die philosophischen Abhandlungen des Ja'qūb ben Ishāq al-Kindi*, Beiträge zur Geschichte der Philosophie des Mittelalters, 2.5, Münster, 1897, pp. 41-64; and the letter on geography, Beirut edition, I, 158-82, Latin version ed. P. Gautier Dalché, "Epistola fratrum sine *rum in cosmographia*: une traduction latine inédite de la quatrième risāla des Iḥwān al-Ṣafā", *Revue d'histoire des textes*, 18, 1988, pp. 137-67. The letter on talismans (Beirut edition, IV, 283-462) includes material which is also found in Latin texts; see Burnett, "Arabic, Greek and Latin works on Astrological Magic Attributed to Aristotle", p. 89, n. 6.

⁵² See "Ibn Ezra" in *Encyclopaedia Judaica*, 8, 1971, pp. 1163-70.

⁵³ Haskins, *op. cit.*, p. 55.

⁵⁴ C. Burnett, "Hermann of Carinthia and the *Kitāb al-istamāṭis*: further evidence for the transmission of Hermetic magic", *Journal of the Warburg and Courtauld Institutes*, 44, 1981, p. 167.

⁵⁵ C. Burnett, *Hermann of Carinthia, De Essentiis: a Critical Edition with Translation and Commentary*, Leiden, 1982, pp. 70-73.

⁵⁶ *Ibid.*, pp. 6, 8-9.

⁵⁷ Thierry's collection of texts on the seven liberal arts, entitled *Heptateuchon*, is discussed in E. Jeuneau, "Note sur l'Ecole de Chartres", *Studi Medievali*, 3rd series, 5, 1964, pp. 821-65. The recent editors of the version of Euclid's *Elements* in the *Heptateuchon* have proposed that it is by Robert (see H. L. L. Busard and M. Folkerts (eds.), *The Latin Translation of Euclid's Elements known as Version II* (in press)), whereas the tables of al-Khwārizmī could be Hermann's revision of Adelard's version; see H. Suter, with A. Bjørnbo and R. Besthorn, *Die astronomischen Tafeln des Muḥammad ibn Mūsā al-Khwārizmī in der Bearbeitung des Maslama ibn Aḥmed al-Majrīṭi und der lateinischen Uebersetzung des Athelard von Bath*, Copenhagen, 1914, p. xiii.

⁵⁸ L. Baur (ed.), Dominicus Gundissalinus, *De Divisione Philosophiae*, Beiträge zur Geschichte der Philosophie des Mittelalters, 4.2-3, Münster, 1903, p. 3 and J. Jolivet, "The Arabic Inheritance", in Dronke, *A History of Twelfth-Century Western Philosophy*, pp. 135-36.

⁵⁹ Hernández, *op. cit.*, Nos. 134, 165 and 174.

⁶⁰ The translations of Gerard used by Dominicus include al-Kindi's *On the Five Essences*, Ishāq Isrā'īlī's *Book of Definitions*, Euclid's *Elements*, Anarītius's commentary on the latter, and Avicenna's *Canon*. Dominicus is also aware of the mathematical text "mahamelech" (*k. al-mu'āmalāt*) and Menelaus' *On Spherical Figures*, both translated by Gerard. P. M. J. E. Tummers' suggestion ("Some Notes on the geometry Chapter of Dominicus Gundissalinus", *Archives Internationales d'Histoire des Sciences*, 34, 1984, pp. 19-24) that Dominicus used the Arabic original of Anarītius's commentary is less plausible. The relationship of *On the Division of Philosophy* to the Chartrian schemata is shown by K. M. Fredborg, *The Latin Rhetorical Commentaries by Thierry of Chartres*, Toronto, 1988, pp. 14-20.

⁶¹ See C. C. Gillispie, *Dictionary of Scientific Biography*, New York, 1970-80, Supplement I, pp. 173-92 (article by R. Lemay on "Gerard of Cremona").

⁶² Jolivet, *op. cit.*

⁶³ *Metalogicon*, IV.6, ed. C. C. J. Webb, Oxford, 1929, p. 171.

⁶⁴ G. Maurach (ed.), Daniel von Morley, *Philosophia*, in *Mittelaltinisches Jahrbuch*, 14, 1979, pp. 212 and 244-45.

⁶⁵ The list has been printed several times and is most conveniently reproduced in E. Grant (ed.), *A Source Book in Medieval Science*, Cambridge (Mass.), 1974, pp. 35-38.

⁶⁶ A. I. Sabra, "The Andalusian Revolt against Ptolemaic Astronomy: Averroes and al-Bīṭrījī", in *Transformation and Tradition in the Sciences*, ed. E. Mendelsohn, Cambridge (England), 1984, pp. 133-53.

⁶⁷ P. W. Rosemann, "Averroes: A Catalogue of Editions and Scholarly Writings from 1821 Onwards", *Bulletin de Philosophie Médiévale*, 30, 1988, pp. 153-221.

⁶⁸ Thorndike, *Michael Scot*, pp. 22-31, and R. Gauthier, "Notes sur les débuts (1215-1240) du premier Averroïsme", *Revue des Sciences Philosophiques et Théologiques*, 66, 1982, pp. 321-74.

⁶⁹ H. Denifle (ed.), *Chartularium Universitatis Parisiensis*, I, Paris, 1899, pp. 78-79.

⁷⁰ M.-T. d'Alverny, "Deux traductions latines du Coran au moyen âge", *Archives d'Histoire Doctrinale et Littéraire du Moyen Âge*, 16, 1947, pp. 129-30.

⁷¹ M. Alonso Alonso, "Bibliotecas medievales de los Arzobispos de Toledo", *Razón y Fé*, year 41, 1941, pp. 295-309.

⁷² S. Van Riet (ed.), *Avicenna Latinus: Liber Tertius Naturalium, de Generatione et Corruptione*, Louvain-Leiden, 1987.

⁷³ It is debatable to what extent these men can be called the "authors" of the works published under their names. However, what is important is that they wanted it to be known that these texts were their own.

⁷⁴ J. F. Valverde (ed.), Rodrigo Jiménez de Rada, *Historia de Rebus Hispaniae* [= *Historia Gothica*], Corpus Christianorum continuatione mediaevalis, 72, Turnhout, 1987, p. xi.

⁷⁵ M.-T. d'Alverny and G. Vajda, "Marc de Tolède, traducteur d'Ibn Tūmār", *Al-Andalus*, 16, 1951, pp. 99-140, 259-307; 17, 1952, pp. 1-56.

⁷⁶ M. de Riquer, *Història de la literatura catalana*, I, Barcelona, 1964, pp. 394-429, and R. I. Burns, *Emperor of Culture: Alfonso X the Learned of Castile and His Thirteenth-Century Renaissance*, Philadelphia, 1990.

⁷⁷ R. I. Burns, *The Worlds of Alfonso the Learned and James the Conqueror*, Princeton, 1985, and *Emperor of Culture*; and M. Comes, R. Puig and J. Samsó (eds.), *De astronomia Alphonsi regis*, Barcelona, 1987.

⁷⁸ Thomann, "The name Picatrix".

⁷⁹ D'Alverny, "Deux traductions latines du Coran au moyen âge".

⁸⁰ *Ibid.*, p. 95.

⁸¹ For further information on the *Apology* see P. S. Van Koningsveld, "La Apología de al-Kindi en la España del siglo xii. Huellas toledanas de un 'animal disputax'", in *Estudios sobre Alfonso VI y la Reconquista de Toledo. Actas del II Congreso Internacional de Estudios Mozárabes*, 3, 1990, pp. 107-29.

⁸² R. Lemay, *Abū Ma'shar and Latin Aristotelianism in the Twelfth Century*, Beirut, 1962, p. 14.

⁸³ P. Kunitzsch, "Eine bilingue arabisch-lateinische Lostafel", *Revue d'Histoire des Textes*, 6, 1976, and C. Burnett, "A Note on Two Astrological Fortune-Telling Tables", *Revue d'Histoire des Textes*, 18, 1988, pp. 257-62.

⁸⁴ The activities are described in single words or short phrases consisting of a *maṣdar* construction in Arabic and an infinitive construction in Latin: "to eat a cake", "to hear a drum", "marriage", etc. Similar culinary ingredients can be found in the 7th/13th-century Andalusí cookery-book published by A. Huici Miranda, *La cocina hispano-magrebí en la época almohade según un manuscrito anónimo*, Madrid, 1965.

* ⁸⁵ C. Burnett, "Teoria e pratica musicali arabe in Sicilia e nell'Italia meridionale in età normanna e sveva", *Nuove Effemeridi* (Palermo), 11, 1990, p. 86.

⁸⁶ Oxford, Bodleian Library, MS Bodley 430, fol. 75vb.

⁸⁷ Burnett, "Arabic Divination and Celtic Lore".

⁸⁸ This was the case with Eugene of Palermo (6th/12th century) who was obliged to use the Arabic version of Ptolemy's *Optics*; see d'Alverny, "Translations and Translators". The Greek version has yet to be found.

⁸⁹ The version of al-Farghānī used by Dante is edited by R. Campani, Città di Castello, 1910.

⁹⁰ This is the case, for example, in the large-scale introduction to philosophy, the *Liber Introductorius* of Michael Scot.

⁹¹ D. A. Callus, "Introduction of Aristotelian Learning to Oxford", *Proceedings of the British Academy*, 29, 1943, shows how Latin commentators were influenced by the methodology of Avicenna and Averroes; see also J. Marenbon, *Later Medieval Philosophy (1150-1350)*, London, 1987, pp. 50-62.

⁹² Rosemann, *op. cit.* Averroes' popularity continued into the Renaissance when several more of his works were translated into Latin: C. B. Schmitt, "Renaissance Averroism Studied through the Venetian Editions of Aristotle-Averroes", *Convegno internazionale, L'Averroismo in Italia*, Rome, 1979, pp. 121-42.

- ⁹³ H. Suter, *Die Mathematiker und Astronomen der Araber und ihre Werke*, Leipzig, 1900.
- ⁹⁴ These being Ibn Sinā, al-Rāzi, Ibn al-Māsawaih, Ishāq al-Isrā'ili and Abū l'Qāsim; see D. Jacquart and F. Micheau, *La médecine arabe et l'occident médiéval*, Paris, 1990.
- ⁹⁵ J. A. Sánchez Pérez, *Biografías de Matemáticos Arabes que florecieron en España*, Madrid, 1921.
- ⁹⁶ J. M. Millás Vallicrosa, *Estudios sobre historia de la ciencia española*, Barcelona, 1949, pp. 219-26.
- ⁹⁷ A. I. Sabra, "The Authorship of the *Liber de crepusculis*, and eleventh-century Work on Atmospheric Refraction", *Isis*, 58, 1967, pp. 77-85 and 560.
- ⁹⁸ J. M. Millás Vallicrosa, *Estudios sobre Azarquiel*, Madrid-Granada, 1943-50.
- ⁹⁹ Müller (ed.), *Quaestiones Naturales*, p. 11, lines 23-24.
- ¹⁰⁰ C. Burnett, "A Group of Arabic-Latin Translators working in Northern Spain in the mid-twelfth Century", *Journal of the Royal Asiatic Society*, year 1977, p. 90.

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THE LEGEND OF THE THREE
HERMES AND ABŪ MA'SHAR'S
KITĀB AL-ULŪF
IN THE LATIN MIDDLE AGES*

* In 1968 the Warburg Institute published a full-scale study of the *Kitāb al-Ulūf* of Abū Ma'shar Ja'far ibn Muḥammad al-Balkhī.¹ In this strange treatise of astrological history the legend of the three Hermes appears to have been first formulated: the first all-wise Hermes lived in Egypt before the flood, and is identical with Enoch; the second Hermes lived in Babylon and revived the sciences after the flood; the third Hermes is, once again, in Egypt. He taught alchemy and passed on his wisdom to Asclepius. This third Hermes corresponds to the Hermes of the *Corpus Hermeticum*.²

Three centuries after the death of Abū Ma'shar the legend appears in three related prologues to Latin works purporting to be retailing the antediluvian wisdom of the Hermetic tradition.³ The Hermes have been accommodated to Old Testament history, and the second Hermes has become Noah, but the story bears an obvious relation to Abū Ma'shar's version and is associated with alchemical works of Arabic origin. The story appears in its least adulterated form in the

translator's prologue to the *Septem tractatus Hermetis sapientia triplicis*:

In historiis divinarum rerum, tres praecclaros viros philosophos, quemlibet vocatum Hermetem, legimus. Horum primus Enoch ante diluvium fuit, qui angelis comitantibus, igneo curru in coelum abiit. Secundus autem Noe, qui in archa, Dei iussu, a diluvio multarum aquarum salvus evasit. Eorum enim alteruter alio nomine Hermes, alio nomine vocatus est Mercurius, ad differentiam Hermetis, qui post diluvium regnavit in Aegypto. Hic enim tertius clarissimus vir, qui regali diademate decoratus, diu rex Aegypto imperavit, a trina virtute Ter magnus dictus est. Ipsum namque ferunt Regem, Philosophum, atque Prophetam fuisse, qui et totius liberalis mechanicaeque disciplinae inventor fertur extitisse.

In the thirteenth century Abū Ma'shar himself is still referred to as an authority on the 'second Hermes' by the author of the *Summa Philosophiae* of ps.-Grosseteste. In this *Summa* we read that the second Hermes was the nephew of the first, Egyptian, Hermes, and 'as Abū Ma'shar witnesses' *inter alia* an astrologer and alchemist.⁴

Since Abū Ma'shar's legend was frequently excerpted from the *Kitāb al-Ulūf* in later Arabic works, it is probable that, even before it reached the Latin world, it had gained a currency independent of its source. There are, however, two references to the *Kitāb al-Ulūf* itself in a Latin work of the twelfth century, which have not, so far as I know, received any comment, but which could suggest a direct knowledge of the work by at least one Latin writer, and might provide a clue to the diffusion of its doctrine in the West.

This Latin source is the *De Essentiis*, written

* I am grateful to Mr. Peter Dronke of Clare Hall, Cambridge; and to Professor D. Pingree of Brown University.

¹ David Pingree, *The Thousands of Abū Ma'shar*, London 1968 (Studies of the Warburg Institute, XXX).

² Pingree, *Thousands*, pp. 14-18; for Abū Ma'shar's sources for this legend see also M. Plessner, 'Hermes Trismegistus and Arab Science', *Studia Islamica*, ii, 1954, pp. 45-59, and *idem*, article 'Hirmis' in *Encyclopaedia of Islam*, new edn., iii, Leiden 1971, pp. 463-5.

³ The *Praefatio Castrensis* (i) preceding the *Liber de Compositione Alchemiae* of Morienus, the translator's prologue (ii) to the *Septem tractatus Hermetis sapientia triplicis* (texts i and ii published by J. Ruska, 'Zwei Bücher De Compositione Alchemiae und ihre Vorreden', *Archiv für Geschichte der Mathematik, der Naturwissenschaft und der Technik*, xi, 1928, pp. 28-37) and the prologue (iii) to the anonymous *liber Hermetis Mercurii Triplicis de VI rerum principijs* (ed. T. Silverstein, *Archives d'histoire doctrinale et littéraire du Moyen Âge*, xiii, 1955, pp. 217-302). Plessner ('Hirmis', p. 464) relates Ruska's texts to Abū Ma'shar's legend. The legend seems to have passed from ii to i (as Ruska shows) to iii (in which the work of Morienus is mentioned). The dates and authorship of these prologues are still in doubt, but it is tempting to maintain, in some way, the traditional association of i with the Robert of Ketton (sometimes known as 'Castrensis') who was a close friend of Hermann of Carinthia (see below), and to whom Hermann dedicated the *De Essentiis* and his translation of Abū Ma'shar's 'Greater Introduction'.

⁴ *Summa Philosophiae*, ed. L. Baur in 'Die Philosophischen Werke des Robert Grosseteste Bischofs von Lincoln', *Beiträge zur Geschichte der Philosophie des Mittelalters*, ix, 1912, pp. 275-643 (see also Plessner, 'Hirmis', p. 464). This passage is not necessarily related to i, ii or iii (n. 3 above) but should be compared, rather, with the references in Daniel of Morley's *Liber de Naturis Inferiorum et Superiorum* to duo . . . testes, quorum unus magnus Mercurius dictus est, alter vero trimegistus Mercurius, predicti Mercurii nepos (ed. K. Sudhoff, *Archiv für Geschichte der Mathematik, der Naturwissenschaft und der Technik*, viii, 1, 1918, p. 16). For Daniel's dependence on Abū Ma'shar and Hermann see T. Silverstein, 'Daniel of Morley, English Cosmologist and Student of Arabic Science', *Mediaeval Studies*, x, 1948, pp. 185-9.

in Béziers in 1143 by Hermann of Carinthia, who worked primarily as a translator of Arabic astronomical and astrological works in the south of France and the north of Spain, but also had connexions with the School of Chartres.⁵ In the first passage Hermann is discussing the distances of the planets from the earth:

Atque ad hunc modum interpositorum quoque dimensio in promptu proportionem inter circuitus collecta quousque a Saturno deinceps usque ad speram octavam restet 366ies tantum quanto intervallo Saturnus distat a centro terreni globi, iuxta eos videlicet qui 66nisque annis solaribus eam per singulos gradus deducunt. Nam iuxta eos qui centenis annis [*gradibus* MSS], vel multo amplius—qui videlicet annum vertentem annis solaribus 36,000 metiuntur, tertium scilicet inter 4 mundi circuitus quos Abumaixar fi Kiteb ululuf in iudicia seculi metitur.

(And by this method the measurement of the [distances of the planets] lying in between can also be readily calculated by comparing the ratios of their orbits, until finally from Saturn to the eighth sphere the distance will stand at 366 times as much as the distance of Saturn from the centre of the earth—that is, according to those who bring the eighth sphere through one degree every 66 years; but the distance will be much greater if one follows those who [bring the eighth sphere through one degree] every 100 years—i.e. those people who measure the Great Year at 36,000 solar years, which is the third of the four orbits of the universe which Abū Ma'shar measures for the purpose of predicting mundane events in the *Kitāb al-Ulūf*.)⁶

⁵ The most succinct and reliable account of Hermann of Carinthia and his writings is still that of Haskins (C. H. Haskins, *Studies in the History of Mediaeval Science*, 2nd edn., New York 1927, pp. 43–56). I am preparing a new edition of the *De Essentia* (first edited from one manuscript alone, by M. Alonso, *Miscelanea Comillas*, v, 1946, pp. 7–107) which will include a revised bibliography of his works, and an account of his sources and ideas. Haskins makes no mention of the *Kitāb al-Ulūf*, but Alonso refers the reader to J. Lippert, 'Abū Ma'shar's *Kitāb al-Ulūf*', *Vienna Oriental Journal* (continued as *Wiener Zeitschrift für die Kunde des Morgenlandes*), ix, 1895, pp. 351–8.

⁶ See Alonso ed., p. 56, for the context; for greater clarity I have substituted Arabic numerals for the Roman numerals of the manuscripts; all the manuscripts have in *libro millenario* written above the Arabic words. Hermann appears to have arrived at '366 times' through a series of mathematical blunders, starting with a basic misapprehension that 'the ratio

The meaning of the 'third of the four orbits' is explained a little further on, when Hermann is discussing the 'differences of time' which are astrologically operative. The *celebris* differences are those of the year, the month, and the day, determined by the sun, the moon, and the outermost (ninth) sphere, respectively. The *probabilis* differences are those determined by the circuits of the planets Mercury, Venus, Mars, Jupiter and Saturn. The 'necessary' difference is determined, above all, by the movement of all the planets and the fixed stars, and hence is related to precession (i.e. the very slow movement of the vernal point with respect to the fixed stars—explained, in the Ptolemaic system, as an eastward movement of the fixed stars, or eighth sphere), to which Hermann was also referring in the first passage:

Necessariam Abumaixar in Libro Millenario quadripartito subdividit, circulum totum imitatione quadrantum per 4 primos numerorum gradus multiplicans, computo ex prima celebris specie inducto—primam quidem numerat annis 360, secundam 3,600, tertiam 36,000, quartam 360,000. Nos tamen tertiam expicientes proprie et velut privilegio quodam 'necessitatis' vocabulo significari volumus—licet ceteris nequaquam immunibus. Si enim vel singuli quarundam stellarum reditus certas temporis differentias metiuntur, quanto magis integrum et generale omnium siderum et stellarum circuitum necessaria totius mundi novitas consequitur! Hinc enim eluviones, hinc exustiones mundi mutantur phisici.

(Abū Ma'shar, in the *Liber Millenarius*, divides the 'necessary' difference into four, multiplying the whole circle by the first four degrees of numbers [i.e. powers of ten]—in imitation of the four quadrants—and beginning his calculation from the first kind of *celebris* difference [i.e. the number 365(360)]: the first division he calculates at 360 years, the second, 3,600, the third 36,000, the fourth 360,000. We, however, take the third division, and wish that it should be to this that the term 'necessity' should be properly, and as if by a certain privilege, applied—although [Abū Ma'shar's] other divisions are by no means without effect. For if the revolutions of the planets, even when taken individually,

of diameters is half that of circumferences' (Alonso ed., p. 56).

measure out certain differences of time, how much more will a necessary radical change to the whole universe follow one complete general revolution of all the planets and stars! From this scientists derive the floods and conflagrations of the universe.)⁷

That Hermann refers to the *Kitāb al-Ulūf* here is confirmed by al-Bīrūnī's quotation of the same passage.⁸ Neither do the three differences of time (*celebris*, *probabilis*, and *necessaria*) derive from Abū Ma'shar, nor does the Arabic astrologer connect any of the divisions with the movement of the stars. Hermann seems to be aware of breaking new ground in his definition of the 'necessary' difference of time; and his innovation lies precisely in his blending of diverse traditions⁹—which is a notable characteristic of the *De Essentiis* as a whole. But what is especially interesting is that Hermann should use information from the *Kitāb al-Ulūf* at all. The work is no longer extant in full in Arabic, and our only testimonies to it are the fragments and summaries in later Arabic works. Was a complete copy of the *Kitāb* available to Hermann? Do we know that the original existed in Spain in the twelfth century?¹⁰ Might the Latin title

which Hermann gives the work in the second reference, imply that a Latin translation was made?

The occurrence of the Arabic word *fi* (meaning 'in') in Hermann's first reference to the *Kitāb*, suggests that he found the phrase 'Abū Ma'shar fi Kitāb al-Ulūf' intact in an Arabic secondary source. However, Hermann was, himself, very familiar with several works of Abū Ma'shar. He had translated the 'Greater Introduction to Astrology' (*Kitāb al-madkhal al-kabir ilā 'ilm aḥkām an-nujūm*)¹¹ and, in the *De Essentiis*, he refers to the *Kitāb al-Qirānāt*,¹² and to his own translation of Abū Ma'shar's *annales*.¹³ He also says that he has used a set of astronomical tables by Abū Ma'shar, which seem to be the *Ẓij al-Hazārāt*; these give another part of the Persian doctrine found in the *Kitāb al-Ulūf*.¹⁴ There appears to be no evidence that Abū Ma'shar himself quotes the *Kitāb al-Ulūf* in any of these works, but it is quite likely that an Arabic manuscript would include this treatise alongside one or more of his other works.

In general, Hermann follows Abū Ma'shar's authority without question. He believes that astrology originated with the Indians, and migrated westwards via the Persians and the Arabs. The fathers of astrology in the *De Essentiis*—'Hermes et Astalius [i.e. Asclepius] Persarum astrologi', pupils of 'Abidemon [i.e. Agathodaimon] Indorum rex'¹⁵—clearly belong to that 'strange mingling of the traditions of

⁷ See Alonso ed., p. 68.

⁸ Al-Bīrūnī, *Qānūn al-Ma'sūdī*, iii, Hyderabad 1954–1956, pp. 1474–9, summarized in Pingree, *Thousands*, p. 59. Al-Bīrūnī refers to the *Kitāb al-Ulūf* by name, and quotes the text in greater detail than Hermann, who mentions only the divisions whose Arabic name is the *Tasyrāt*. For a clear account of the principle of Abū Ma'shar's divisions see E. S. Kennedy, 'Ramifications of the World-Year Concept in Islamic Astrology', *Ithaca, Actes du 10^e Congrès international d'histoire de science*, Paris 1962, pp. 23–45.

⁹ For the Great Year (*magnus annus* or *annus vertens*) Hermann's principal sources are Plato, *Timaeus* 39D; Cicero, *Somnium Scipionis*, 7; Macrobius, *Commentarii in Somnium Scipionis*, ii.11.8–17 (see P. R. Coleman-Norton, 'Cicero's doctrine of the Great Year', *Revue de philosophie*, iii, 1947, pp. 293–302, and B. L. van der Waerden, 'Das Grosse Jahr und die ewige Wiederkehr', *Hermes*, lxxx, 1952, pp. 129–55). When it was related to any astronomical periodicity at all, the Great Year was equal to the lowest common multiple of the periods of all the planets; with the discovery of precession, the revolution of the eighth sphere was included, and this, in itself, provided the period of the Great Year. The inspiration of Hermann's *celebris* and *probabilis* differences is clearly *Timaeus* 39C–D; in using the word *necessaria* he may have been influenced by the connotation of 'destiny' in the Arabic word for 'division' (*qisma*) used by Abū Ma'shar in this context.

¹⁰ We know that in the eleventh century in Spain Šā'id al-Andalusī (1029–70) used the *Kitāb al-Ulūf* as a source in his *Kitāb tabaqāt al-umam* (cf. Pingree, *Thousands*, p. 14). Pingree lists our testimonies to the *Kitāb al-Ulūf* on pp. 14, 21–27; none of the works mentioned here appears to have been known to Hermann.

¹¹ *Introductorium in astronomiam Albusaris abalachi* . . . Venice 1506 (an edition of the Arabic text, and both the Latin translations, of John of Seville and Hermann respectively, has been prepared by Richard Lemay, City University, New York, and should, it is hoped, be published in the near future).

¹² I have identified his reference to the *Kitāb al-Qirānāt* (Alonso ed., p. 69) with a passage in the *De Magnis Coniunctionibus* (tr. John of Seville, ed. Venice 1515, fol. aiii^r). Hermann probably refers to the Arabic original, since there are no verbal correspondences between Hermann and John's account, and Hermann gives only the Arabic title of the work ('*Alkirene*').

¹³ Alonso ed., p. 68. I have investigated the problems concerning the identity of this work in my edition of the *De Essentiis*.

¹⁴ *Introductorium*, i, 1 (Venice 1506, fol. a2^v). Hermann calls the work '*Ẓij al-Kabir*'—a set of astronomical tables which Pingree, referring to their mention in another, Arabic, context, tentatively identifies with the *Ẓij al-Hazārāt* (*Thousands*, p. 2); *Hazārāt* is the Arabic form of the Persian word for 'thousands'. Lemay compares Hermann and John of Seville's translations of this passage from Abū Ma'shar in *Abū Ma'shar and Latin Aristotelianism in the Twelfth Century*, Beirut 1962, pp. 36–37.

¹⁵ Alonso ed., pp. 29–30; cf. *Introductorium*, ii, 7 (Venice 1506, fol. b5^v) and v, 4 (fol. d5^r). For these identifications of Astalius and Abidemon see D.

Îrân and Harrân¹⁶ which is so prominent in the *Kitâb al-Ulûf*. I suggest that Hermann might have been partly responsible for ex-

Chwolsohn, *Die Sabier und der Sabismus*, i, St. Petersburg 1856, pp. 790-4, and F. Boll, *Sphaera*, Leipzig 1903, p. 415 n. 2.

¹⁶ Pingree, *Thousands*, p. 18.

tending these traditions into the Latin world, and that, through the *De Essentiis*, we have glimpses of a further stage in the history of the *Kitâb al-Ulûf*.

HERMANN OF CARINTHIA AND THE *KITĀB AL-ISTAMĀTIS*:

FURTHER EVIDENCE FOR THE TRANSMISSION OF HERMETIC MAGIC

IN a discussion of the nature of incorporeal spirits in the *De Essentiis* (completed at Bézier in 1143) Hermann of Carinthia¹ quotes a passage from a book which he calls 'Aristotle's *Data Neiringet*'.² The passage reads as follows:

[1] Aristotiles vero primum in diebus Medorum regis Thebe cuidam Iaoth eiusdem regionis spiritum Veneris in sompnis venisse tradit, eumque sic affatum: [2] 'Cum Sol,' inquit 'Geminos possederit, Luna Cancrum occupaverit, die Veneris, [3] exutus, mundabere, odoribusque confectus, *chaïten* indues, [4] arrepto deinde ariete albo cum capistro solus sub teretis arborem palmi proficiscere, [5] ibique immobilis hostiam, hec invocando nomina. [6] Que deinde, quotiens invocaveris, aderunt tibi omnis voluntatis tue ministri. [7] Tu modo fac ut assumptos tibi socios privatos et condignos in eandem religionem inducas.'³

¹ For Hermann of Carinthia see C. H. Haskins, *Studies in the History of Mediaeval Science*, Harvard University Press, 1927, pp. 43-66 and C. S. F. Burnett, 'Arabic into Latin in Twelfth-Century Spain: the Works of Hermann of Carinthia', *Mittelaltinisches Jahrbuch*, xii, 1977, pp. 100-34. The *De Essentiis* exists in three MSS: N [aples C.VIII.50, 12th cent.]; C [Corpus Christi College, Oxford 243, 15th cent.]; and L [ondon, British Library, Cotton Titus D IV, fragmentary, 14th cent.]. I refer to the text according to the folio nos of the Naples MS.

² Thus N; L gives *data metinget*, C gives *data* followed by a lacuna. I am grateful to Professor Richard Lemay of the City University, New York, for pointing out the correct reading.

³ [1] Aristotle relates that first in the days of the king of the Medes, at Thebes, the spirit of Venus came to a certain man called Iaoth of the same region in a dream, and addressed him in this way: [2] 'When the Sun is in the sign of Gemini, and the Moon is in Cancer, on the day of Venus, [3] you will undress, wash, perfume yourself and put on *chaïten*, [4] and, having taken up a white ram with a halter, go alone under a smooth date-palm, [5] and there you will sacrifice your victim, calling on these names. [6] Afterwards, whenever you call them, ministers for whatever you desire will be present to you. [7] Only make sure that you bring into the same ceremony as companions only close friends and worthy individuals. *De Essentiis* 72^e E-F.

Thus LC; (C gives *chaïten* for *chaïten*; LC have *capisterio*). The quotation in N is slightly different:

Aristotiles vero primum in diebus Ieid Persarum regis, cuidam eiusdem regionis spiritum Veneris in sompnis venisse tradit, eumque sic affatum: 'Mane,' inquit, 'ubi primum surrexeris, aq[ue] lavacris mundabere, albisque indutus, arrepto ariete albo solus sub arbore palmi proficiscere ibique immobilis hostiam, hec invocando nomina (thereafter as in LC).

Hermann of Carinthia is primarily known for his translations of astronomical and astrological works from Arabic into Latin.⁴ His original work, the *De Essentiis*, gives evidence of the range of his reading of Arabic works, whether in the original language or in translations which had already been present. Amongst these are two *Hermetica*: the *De Secretis Naturae* of ps.-Apollonius⁵ and Hermes's *Aurea Virga*.⁶ The above quotation from '*Data Neiringet*' corresponds very closely to the story told in the Arabic Hermetic work in Bodleian MS Marsh 556, fols 4-110, called '*kitāb al-Madītīs* ... a commentary on the *kitāb al-Istamātīs*'.⁷ Here we read on fol. 55^v:

[1] The fourth, the clime of Venus. The wise Aristotle said: there was a wise man of the fourth clime to whom her (Venus's) spirit used to be intimate in the desert, and he was called Shāūth. ... The wise Aristotle said, the spirit of Venus was intimate with him and spoke in his language and ordered him and said: [2] 'When the Sun is in Pisces, and the Moon is in Cancer, then choose a Friday [3] and wash yourself and clean yourself and perfume yourself; [4] and hasten and enter a walled garden and aim for a round date-palm or another tree, and go under it. And take with you a ram and a knife. [5] And approach the ram in my name and in [the name of] my spirit. And you should say: Didās Ghailūs Haslūs Damārīs Tūsān Samlūs Arhūsh Dahārīsh. [6] And I will

I have argued in my edition of Hermann's *De Essentiis* (forthcoming) that the differences between N and LC suggest a revision to the text which appears to have been made by Hermann himself.

⁴ For a catalogue of these works see Burnett, 'Arabic into Latin', art. cit. n. 1 above.

⁵ *De Essentiis* 72^e D-E and 65^e C. Hermann may have known the text directly (ed. U. Weisser, *Buch über das Geheimnis der Schöpfung*, Aleppo 1979) in the same MS used by the translator Hugo of Santalla. Hugo's Latin translation of *De Secretis Naturae* is being prepared for publication by Mlle M.-T. d'Alverny and Mme Hudry.

⁶ *De Essentiis* 72^e D: *Sic Hermes in Aurea Virga ... Hermes quidem ipsa privati sui verba colloquēntis ad se facta retractat*. This reference does not seem to be related to any extant Latin text called *Aurea Virga*. However, Hermes's *Aurea Virga* is also cited in the preface to *Liber Hermetis de Sex Principiis* (a composite work, perhaps of the late twelfth century) ed. T. Silverstein, *Archives d'histoire doctrinale et littéraire du moyen-âge*, xxii, 1955, p. 247, and may correspond to an Arabic work with the same title — Hermes, *k. Qaṭīb al-dhahab* (Hermes, 'the book on the Golden Bough'; Ibn al-Nadīm, *Fihrist*, ed. Flügel, p. 267.15). Other references to Hermes in *De Essentiis* (58^e E, 59^e A, 69^e G) are taken from his translation of Abū Ma'shar's *Mausus Introductorius*, where Hermes is cited as an authority (Book vi, Ch. 1, pr. Erhard Ratdolt, Augsburg 1489, fol. 25^v). Hermann also refers several times to the *Asclepius* of Hermes Trismegistus, the one Hermetic work amongst his Latin sources.

⁷ For 'Aristotle's' *k. al-Istamātīs* see M. Ullmann, *Die Natur- und Geheimschichten im Islam*, Leiden 1972, p. 375; F. E. Peters, *Aristoteles Arabus*, Leiden 1968, p. 58; and H. Ritter and M. Plessner, *Picatrix*, London 1962, p. xiv.

come into your presence. And ask what you want and wish for what you desire. [7] And take disciples whom you might teach so that they might learn the same thing also.

This version is close enough to Hermann's citation to be its source. Hermann adds a reference to a date and a place ('in the days of the king of the Medes, at Thebes'), but since the names he uses are Latin, this could be an interpolation. He slightly abbreviates the Arabic, omitting the name of Venus's spirit. His substitution of Gemini for Pisces is probably a straightforward error caused by the similarity of the symbols II and ♊, and his version of part [7] is probably due to misinterpretation of the Arabic. Given the notorious unreliability of transliterated proper names, Shāūth is remarkably close to Iaoth. But what is most significant is that the Arabic word which Hermann leaves untranslated — *chaiten* — occurs in this very MS (*hā'ītan*, 'walled garden' [4]). Hermann had evidently failed to understand the Arabic, perhaps thinking that *hā'ītan* referred to a ceremonial garment of some sort. But by merely transliterating the word he has given us a valuable clue to the origin of his citation. For, of the MSS of the *k. al-Isāmātīs*, Marsh 556 ('the commentary') is the only one that gives the reading *hā'ītan*.⁸ Is it possible then, that Hermann knew the *k. al-Isāmātīs* in the same version as that found in Marsh 556; or might there have been an intermediary source, through which Hermann knew the work?

The most likely of these sources would be the *Ghāyat al-hakīm* known in Latin as the *Picatrix*. This is an Arabic compendium of Hermetic science attributed falsely to Maslama al-Majrīfī, but apparently composed in Spain in the eleventh century.⁹ The work was translated into Spanish and thence into Latin under the auspices of Alfonso X, King of Castile, in the second half of the thirteenth century. There is no evidence of an earlier Latin translation; however, Hermann could have known the work in the original Arabic. A large portion of the *k. al-Isāmātīs*, including the passage with which we are concerned, is contained in the *Ghāyat*,¹⁰ and the title is given: 'Aristotle's work,

addressed to Alexander, called *kitāb al-Isāmātīs*.' However, Hermann's quotation does not correspond to the version in the *Ghāya*, which is considerably abbreviated:

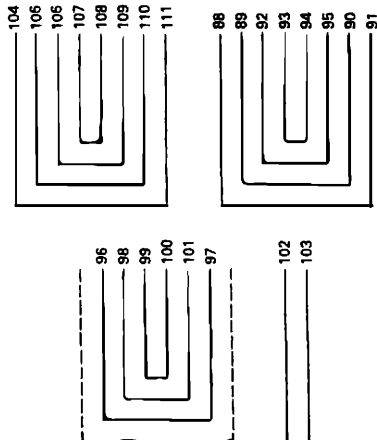
[1] And as for the summoning of the spirit of Venus, [2] then aim for the time when the Sun is in the beginning of Pisces and the Moon is in Cancer, and that very Friday, [3] clean and perfume yourself [4] and enter a bath, and aim for a date-palm or any kind of tree, and go under it. And take with you a ram and a knife and [5] you should say: Dīdās, Ghīlūs, Hāmīlūs, Damārīs, Tīmās, Samlūs, Arhūs, Haḡārīs. [6] And ask what you like, and wish for what you want.¹¹

There is, however, another text which can be brought into consideration — a Latin work with the promising title, *Liber Antimaquis*. This occurs in a fourteenth-century MS in the Sloane collection of the British Library. The text is incomplete, the folios are in the wrong order, and two folios can be shown to be missing.¹² It turns out

¹¹ *Ghāya*, p. 239 (German tr., p. 251).

¹² [S]loane MS 3854]. Lynn Thorndike was the first to mention this Latin work (*History of Magic and Experimental Science*, II, New York 1923, p. 260). With great insight he suggested that it might be related to the work in MS P[aris B.N. ar. 2577] which he knew only through Blochet's summary of its contents (E. Blochet, *Études sur le Gnosticisme Musulman*, Rome, 1913, pp. 81–100).

Sloane 3854 consists of three MSS of varying dates but all concerning magical images and incantations, bound together in one codex. MS B, fols 88–111, is a vellum MS apparently of the 14th century, and is clearly a fragment of a larger MS. Moreover, the gatherings are in the wrong order, the folios within two of the gatherings have been bound incorrectly, and one bifolium is missing. The folios would be in correct sequence if the gatherings were reconstructed in the following way (I give the folio-numbers as they stand at present):



⁸ For the readings of the other MSS see the apparatus of *Ghāyat al-hakīm* (ed. H. Ritter, *Pseudo-Magīrīfī, Das Ziel des Weisen*, Leipzig 1933); they include *hāmāman* ('bath'), *bustānān* ('garden') and *baina nakhlin* ('between date-palms').

⁹ For the edition of the Arabic text, see note 8. Ritter's text is translated into German, with a summary in English, in *Picatrix* (n. 7 above).

¹⁰ *Ghāya*, pp. 233–42 (German tr., pp. 245–53).

that the *Liber Antimaquis* is based on the first part of the Arabic work occurring in MS Paris ar. 2577, fols 38^r–105^r, whose opening words are: 'Hunain ibn Ishāq says: Among the books of Aristotle which we have found and which we have translated from Greek into Arabic there exists the book of the causes of spiritualities composed by Hermes.' Further on, this Arabic work is said to be a sequel to *k. al-Iṣṭamākhīs*.¹³ It is presumably from this latter title that the *Liber Antimaquis* takes its name. However, a large part of the contents of this 'book of the causes of spiritualities', including sections also in the *Liber Antimaquis*, correspond to the contents of the commentary on the *k. al-Iṣṭamākhīs* in Marsh 5 6.¹⁴ The passage we have been discussing is found on fol. 96^r of the *Liber Antimaquis*:

[2] Quando Sol intrat principium Piscium et fuerit Luna in Cancro, in die Veneris in eius hora [5] dic ista nomina: Dabras alusayluz heemeyluz dahayryz raymech cemuluz ayhuz yachtates. [6] Et pete quicquid volueris a spiritu et dabit tibi.¹⁵

Fols 104–105^r contain the end of a work of scurrilous tales of Italian provenance which I have not identified. The *Liber Antimaquis* starts on fol. 105^r and is continuous except for the breaks caused by the loss of the bifolium between fols 91^r and 96^r, 97^r and 102^r. The work breaks off incomplete at the end of fol. 103^r. The last part of the *Liber Antimaquis* includes spells employing Scandinavian runes (fols 101^r–97^r) and Christian spells (fols 102^r–103^r) and would not therefore appear to be of Arabic origin.

¹³ S fols 104–101^r corresponds, sometimes closely, sometimes only approximately, and abbreviating considerably, to P fols 38^r–60^r. The work translated by 'Hunain' begins six pages after the beginning of a work described as 'the book of Hermes on spiritualities' (*kitāb Hirmis fī l-rūhāniyyāt*; P fols 35^r–104^r), which in turn is called 'the second part'. The 'first part' (P fols 1^r–34^r) is called Hermes's *kitāb*

al-Ustuwawātās (كتاب الاستوطاس) on fol. 1^r, but

kitāb al-Ustūfās (كتاب الاستوفاس) on fol. 34^r.

¹⁴ P fols 49^r–52^r corresponds to [Oxford, Bodleian] M[arsh. 556] fols 29^r–41^r, P fols 82^r– corresponds to M fol. 55^r (the story of the descent of Venus's spirit). Note that S fols 95^r, 90^r–91^r follows M fols 41^r–43^r more closely than any passage in P.

¹⁵ [2] When the Sun enters the beginning of Pisces and the Moon is in Cancer, on Friday and at Venus's hour [5] say these names: Dabras etc. [6] And seek whatever you want from the spirit and he will give it to you.

The relation of the *Liber Antimaquis* to its Arabic source, and the inter-relationship of several Arabic works with similar names and a large overlap in subject-matter (such as *k. al-Iṣṭamākhīs*, *k. al-Iṣṭamākhīs*, and *k. Ustuwawātās*) need further investigation.¹⁶ Even Hermann may have known two different texts, as the variation between the MSS of the *De Essentiis* attest.¹⁷ The title Hermann gives to the book is *Aristotiles data neiringet*, which could well be the title of one of the texts he knew (perhaps *kitāb dhāt al-niranjāt li-Aristūṭālīs*, 'Aristotle's book on the essence of the talismans'). One may compare this title with the statement at the beginning of the 'book of the causes of spiritualities, translated by Hunain', that 'in this work Aristotle treats of the causes of the spiritualities and the talismans' (*'ilal al-rūhāniyyāt wa'l-niranjāt*).¹⁸

In the course of this short survey of the source of a quotation from a magical work in Hermann of Carinthia's *De Essentiis* it has become clear that there was more than one route by which the Hermetic tradition of magic may have passed from Arabic into Latin. The *Ghāyat al-ḥakīm*, or *Picatrix* is the best known, but it by no means holds the field. The date of the composition of the *Liber Antimaquis* is unknown, but Hermann of Carinthia's citation of a work by 'Aristotle' on talismans gives evidence that Hermetic magical texts were known to Latin scholars at least a century before the Alphonsine translations.

¹⁶ For these works see Ullmann, op. cit. n. 7 above, pp. 374–75; and F. Sezgin, *Geschichte des Arabischen Schriftums*, VII, Leiden 1979, p. 57.

¹⁷ Professor David Pingree has pointed out to me that the form of the quotation in *De Essentiis* MS N (n. 3 above) may include under the words *leid Persarum regis* a reference to *Iazd (agird)*, the Persian King from whose accession the Persian era was computed.

¹⁸ P fol. 38^r. For the term *niranj* see Ullmann, op. cit. n. 7 above, p. 363: 'A niranj is a magical tool of a practical kind, for whose manufacture often long recipes with every conceivable ingredient are demanded' (my translation).

VII

The *kitāb al-Iṣṭamātīs* and a Manuscript of Astrological and Astronomical Works from Barcelona (Biblioteca de Catalunya, 634)¹

In 1981 I published a short note describing several texts which suggested that an important Arabic work on astrological magic—the *kitāb al-Iṣṭamātīs*—was known to Latin scholars from at least the second quarter of the twelfth century.² In the same note I referred to a fragment of the only Latin translation of the work known to me at the time, in a manuscript bound into British Library, Sloane 3854, which must be dated to the fifteenth century, since it includes the last few tales of the *Facetiae* of Poggio Bracciolini (written between 1430 and 1453). Consequently, I discovered a version of part of the same work in a manuscript which has been in Barcelona since at least the mid-fifteenth century, and was probably written in the early years of that century. In this article I propose to describe this manuscript, which contains some unusual works, and to edit the fragment of the *kitāb al-Iṣṭamātīs* it contains along with the corresponding passage in Sloane 3854.

* * * *

Barcelona, Biblioteca de Catalunya, 634, belongs to the Dalmases collection, which consists entirely of manuscripts from the city. It is an octavo manuscript consisting of 91 folios arranged in seven quires. Most of the quires consist of eight folios, of which the outermost and innermost are of vellum and those inbetween are of paper. The text is written in one column, and copious diagrams and tables are included.

The use of the manuscript by Catalan speakers is clear from the notes on the penultimate flyleaf (fol. 91v). These indicate a purchase (presumably that of the manuscript itself) for five *maravedí* in November 1446. The Castilian and Catalan names of what seem to be the sellers (?)—‘petrus

¹ This is a revision of the unpublished original English version of the Catalan article ‘El *kitāb al-Iṣṭamātīs* i un manuscrit Barceloní d’obres astrològiques i astronòmiques’, *Llengua i Literatura*, 2, 1987, pp. 431–51. The material for this paper was gathered in the course of a visit to Spain in May, 1984, which was made possible by a grant from the British Academy. I am grateful to Xavier Gil Pujol, David Pingree, Jaume Riera i Sans, José Chabás, Joanna Weinberg, and Lola Badia for their advice.

² ‘Hermann of Carinthia and the *kitāb al-Iṣṭamātīs*: further evidence for the transmission of Hermetic magic’, *Journal of the Warburg and Courtauld Institutes*, 44, 1981, pp. 167–9 [article VI in this volume].

alvero sindicus (?) e simon (?) puig—and the merchant—‘aristotill pau mercader’—are given at the bottom of the page, and the name of what is presumably the owner is written immediately below these three names: ‘iohan benares ho benavares’ (i.e., Joan Bonarès or Benavarrès). In the centre of the page there is a table for the year 1479, written entirely in Catalan: a list of dates covering a ten-month period is followed by the names of the days of the week and their order within the week, the hour and minute of the day, and the signs and degrees corresponding to these times. The final column, which is blank, is headed *coniunctio*, and this heading would indicate the the subject of the table is the conjunctions of the Sun and Moon—i.e., the occurrences of New Moons—over the period concerned.³

There are no other recognisably Catalan words in the texts of the manuscript, though some of the unusual Latin words (see below) may exhibit Catalan characteristics in their vocabulary or orthography. The hand responsible for the Catalan on fol. 92v has also written the date 1486 in the margin of the astronomical tables on fol. 55r. What is apparently a later hand has attempted some ‘name-divination’ (onomancy) on fol. 78v, using the names Ambrosius and Catharina, Thomas and Francina; I cannot say whether these are Latin forms of distinctively Catalan names of the period.

The manuscript is not a deluxe copy. It is rather a notebook for the amateur or professional practitioner of astrology, and, as such, it is untidy and not straightforward to describe. If we leave out of consideration for the moment the glosses and additional material inserted on originally blank folios and in vacant spaces, the manuscript consists of the following works, written entirely in one hand:⁴

1) Fols 2v–14v. <Iohannes de Sacrobosco> *Tractatus spere*. A very common elementary introduction to astronomy, described in detail by L. Thorndike, *The Sphere of Sacrobosco and its Commentators*, Chicago, 1949. In this manuscript the work is preceded (fol. 2v) and followed (fols 14r–v) by diagrams illustrating the text, including a diagram with moving parts demonstrating how eclipses occur (fol. 14v).

2) Fols 15r–26v. Rabi Abraam, *De prima forma cursus planetarum*. This is the work which includes a long passage from the *kitāb al-istāmātis*, and which will be discussed in detail below.

³ The Catalan values do not correspond exactly to the actual times and longitudes given in Herman Goldstine’s *New and Full Moons 1001 B.C. to A.D. 1651*, Philadelphia, 1973, p. 207.

⁴ Names and titles in pointed brackets are supplied by me; otherwise they are in the form found in the manuscript.

3) Fol. 27r. *Quando Luna intrat quodlibet signum quis effectus* (sic) *sequetur*. Verses on blood-letting according to the position of the Moon in the signs of the zodiac. A very common text, excerpted from the *Regimen sanitatis Salernitanum*, ed. Salvatore de Renzi, *Collectio Salernitana*, 5, Naples, 1859, p. 40.

4) Fols 27r–v. Two jejune astrological paragraphs follow, beginning *Predictorum signorum quedam sunt mobilia...* and *Aries in capite de prima triplicitate masculinum* (headed: *De qualitatibus et naturis signorum*).

5) Between fols 27 and 28 four folios have been cut out. The glosses that can still be read indicate the subject-matter was astrological.

6) Fol. 28r. a) a circular diagram using onomancy for indicating whether the patient will live or die, commonly called 'the sphere of Pythagoras'; see E. Wickersheimer, 'Figures médico-astrologiques des ix^e, x^e, et xi^e siècles', *Janus*, 19, 1914, pp. 1–21.

b) a circular diagram illustrating the relationships of the signs of the zodiac to each other. The first tropical sign, Aries, is *ascendens* and related to fire; the rubric of the second tropical sign has been cut off with the trimming of the folio; the third, Libra, is *descendens* and related to water; the fourth, Capricorn, is *aug<mentans>* and related to air. The cardinal, succedent and cadent houses are described rather unusually as, respectively, *cavilla*, *propinquus* and *cadens*. *Cavilla* occurs in Mediaeval Latin texts elsewhere with the meaning of 'wooden or iron peg',⁵ which is the primary meaning of the usual Arabic word for 'cardine': 'wataḍ'.

7) Fol. 28v. a) a brief excerpt on zodiacal onomancy. b) a table showing the approximate position of the Moon on the ecliptic on each day of each month.

8) Fol. 29r. A more detailed version of the table given in 7b, described in the canon as *Tabula magistri Petri de Dacia de loco Lune inveniēdo*. This table is edited from other manuscripts by F. Saaby Pedersen in *Petri Philomenae de Dacia et Petri de S. Audomaro Opera Quadrivialia*, I, Copenhagen, 1983, p. 360.

9) Fols 29v–31r are empty except for some later jottings.

10) Fol 31v. A table giving the latitude and longitude of certain fixed stars.

11) Fols 32r–40v. *Liber de scientia astrolabii a magistro Iohanne interprete de arabico in latinum translatus, in quo sunt .xl. capitula*; i.e. John of Seville, *On the Astrolabe*, as in L. Thorndike and P. Kibre, *Incipits of Mediaeval Scientific Writings in Latin*, 2nd edition, London, 1963 [henceforth, TK], col. 454.

12) Fols 41r–47v. <Profatius Iudaeus, *Quadrans novus*, translated by Ermengaud de Blaise>. *Incipit tractatus Perfecti Judei de Marcilia super*

⁵ Hence 'cavilha' (Portuguese) and 'cheville' (French), with the same meaning.

quadrante translatus de ebraico in latinum a magistro Ermengauda Blasini secundum vocem eiusdem apud Montem Pesulanum. This translation was made in 1290; TK, col. 1300.

13) Fols 48r–78r. Canon (fols 48r–54r) and tables (fols 54v–78r) for the movement of the Sun and the Moon. The canon is headed: *Declaratio tabularum infra sequencium quibus cognoscitur eclipsis solaris et lunaris*, and begins: 'Quia scientia mathematicalis inter alias scientias est singularis...'. Amongst the authorities cited are Ptolemy and *ille egregius doctor rabi moyses in libro iudiciorum sanctificationis mensis* (i.e., the section of Moses Maimonides's *Mishneh Torah* on the laws on the Sanctification of the New Moon), and the starting year ('radix') is 1362. These are the tables for the meridian of Perpignan drawn up by Jacob Poel (Bonjorn) in 1361, and discussed by L. Thorndike in *Isis*, 34, 1942, pp. 6–7, *ibid.*, 35, 1943, p. 410, and José Chabás in *Análisis del contenido astronómico de las tables de Jacob ben David Bonjorn*, tesis doctoral, Facultad de Física, Universidad de Barcelona, 1989. On fol. 51v the scribe betrays vernacular influence by writing *cauculatione* for *calculatione*.

14) Fol. 78v. Originally a blank folio, followed by several folios which have been cut out.

15) Fol. 79r. The end of an astrological treatise, similar in form to the works on natives born under each of the lunar houses in the *Liber Alchandreï* (Paris, Bibliothèque nationale, lat. 17868, fols 6r–8v) and to that edited by E. Svenberg in *Lunaria et Zodiacologia Latina*, Gothenburg, 1963, pp. 45–59.

16) Fols 79v–83v, *Centiloquium Ptolomei*: 'Scientia stellarum ex te et illis est...'. This is the version of the widespread *Centiloquium* falsely attributed to Ptolemy, made by Plato of Tivoli, who was active in Barcelona in the second quarter of the twelfth century.

17) a) Fols 84r–87v, *Tractatus Davidis Iudei*: 'Quia ut dicit Tolomeus in Centiloquio, vultus huius seculi sunt vultibus celestibus similes'. This work, which is not mentioned in the catalogue of Thorndike and Kibre, is avowedly intended for doctors who need to know astrology in the everyday practice of their profession ('tractatum...de hiis que indiget medicus cotidie in dando laxativa, ciropos, et vomitia et in faciendo flebotomias...'6).

b) Fols 88r–90r. Two tables, the first showing several sets of attributes for the signs of the zodiac, the second, corresponding sets for the planets. The tables, in that they include the parts of the body and the illnesses associated with each of the signs of the zodiac and the planets, are an appendix to the foregoing work.

⁶ The contents are briefly described and placed in context in my article 'Astrology and Medicine in the Middle Ages', *Bulletin of the Society for the Social History of Medicine*, 37, 1985, pp. 16–18.

Of the above works, nos 2, 15 and 17 have not been identified in any other manuscript. It is noticeable that several of the works included in the manuscript are by, or associated with, Jewish astrologers. Thus no. 2 is by a 'Rabi Abraam' and no. 12 by Profatius Iudaeus (i.e., Jacob ben Machir ben Tibbon). No. 13 is the work of the Jew Jacob Peol and refers to Maimonides in very deferential terms. No. 16 is a translation by Plato of Tivoli, whose close association with Abraham bar Hiyya is well-known,⁷ and the last author in the manuscript, who quotes from Plato's version of the *Centiloquium*, is a 'David Iudaeus'. The most common onomantic texts have a Hebrew association, as do the earliest texts in the West concerning the lunar mansions. Most striking is that the letters of the Hebrew alphabet appear to have been used to number the tables, though most of these letters have now been partially or totally cut off in the trimming of the folios. A phrase consisting of at least ten Hebrew letters has been cut off in the top margin of fol. 71v, within the tables.

However, to off-set this Jewishness, several pious formulae have been added which express the Christian faith:

Fol. 13v. 'Explicit spera Iohannis de Sacrobosco qui in pace requiescat. Amen.'

Fol. 40v. 'Explicit liber practice astrolabii. Benedictus sit dominus deus Ihesus Christus Amen.'

Fol. 54r (the end of the canons): 'Et facit relucere faciem eius cum illo lumine quod dedit ei Deus benedictus, qui est lux perfecta, fortis et continua, ex cuius habundancia relucent tenebre, ut dixit Propheta: Terra illuminata est gloria eius' (Apoc. 18, 1). Dominus Deus Sabbaot revertere nos et reluce faciem tuam, et salvi erimus. Amen.'

Fol. 87v. 'Totum tamen est in potestate Dei qui est medicus omnis carnis, et est magus et faciens mirabilia magna solus, et nullus alius ab ipso, qui vivit et regnat in secula seculorum. Amen.'

Those works whose place of composition is known, come from Catalonia and the neighbouring Provence. Plato of Tivoli and Abraham bar Hiyya worked in Barcelona. Ermengaud de Blaise made his translation in Montpellier, but is also associated with Barcelona where his uncle, Arnald of Villanova resided. The Tibbonid family were active in several towns in Provence, and Jacob Poel (Bonjorn) wrote tables for both Perpignan and Barcelona. A more narrow association of some of these works with Petrus Ceremoniosus (Peter IV, king of Aragon, d. 1387) who commissioned the Barcelona tables, might be possible.⁸

⁷ See J.-M. Millás Vallicrosa, 'La obra enciclopédica de R. Abraham bar Hiyya', in his *Estudios sobre historia de la ciencia española*, Barcelona: Consejo superior de investigaciones científicas, 1949, pp. 219-62.

⁸ That a considerable number of astrological and magical works survived in the Royal Library is shown by the inventory of the books of King Martin of Aragon (d. 1410), edited in J. Massó i Torrents, 'Inventari dels béns mobles del rey Martí

One assiduous glossator has read through most of the manuscript, making notes in a small, neat hand of a date not far removed from that of the main scribe. His annotations are mainly of an astrological nature, but he also shows a considerable interest in Classical mythology (e.g., in an excursus on Saturn on fol. 23v) and quotes from Isidore and Prester John. The Catalan notes in a later hand have already been referred to. There are further notes in Latin on fols 65r–v which mention the year 1506.

What might be the original scribe has written against the table of fol. 65v ‘<in an>no .mccccxiii. servit hec tabula’ (cut off by the margin). That is, ‘this table is valid in 1414’. An early fifteenth-century date would fit the script of the manuscript.

We have, therefore, a manuscript of astrological works, many written by Jews, compiled towards the beginning of the fifteenth century, and perhaps sold to a Jewish merchant by a certain Pedro Alvaro and Simó Puig in 1446, and bought by a Joan Benarès who may have made notes in the manuscript in Catalan for the year 1479. He or his successors were still using the manuscript in the early sixteenth century, and it has remained in Barcelona until the present day.

* * * *

The text in this manuscript on which I wish to concentrate is the second work, occurring on fols 15r–26v. This appears to be a single work. The contents, however, fall into three disparate categories, as we shall see, and one is inclined to think that a single author has brought together chapters from three different sources in a misguided attempt to compose an introduction to astronomy and astrology.

I. The first source is indicated in the title of the first chapter: *secundum rabi abraam de prima forma cursus planetarum*. One immediately thinks of Abraham bar Hiyya, and indeed, the first five chapters of the work are a translation or summary of a substantial portion of the Jewish exegete’s *On the Form of the Earth* (*Šurat ha-’areš*). This was very popular in Jewish circles, but, so far, no Medieval Latin translation of the work has been identified.⁹ The first chapter begins: ‘Declaratum est in libris antiquorum philosophorum quod figura universalis omnium celorum est figura sperica’. The problem is posed that, in that astronomy is based on

⁹ d’Aragó, *Revue hispanique*, 12, 1905, pp. 413–590. Dr Jaume Riera kindly drew my attention to this article.

⁹ J. M. Millás Vallicrosa, *La obra “forma de la tierra” de R. Abraham bar Hiyya ha-Bargeloni*, Madrid and Barcelona, 1956, pp. 19–21 discusses the earliest Latin translations: of Oswald Scherekenfuchs in 1546, and another sixteenth-century translation in MS Vat. Ottobon. 2079.

natural philosophy and therefore all circular movements should be uniform, why is it that the planets seem to move now faster, now slower. Geometry provides the answer by means of eccentric and epicyclic circles, which give the two paradigms (*formae*) for the planets' movements. The first chapter is devoted to describing the first *forma* (= *Šurat ha-'areš*, II, §10), the second to the second *forma* (= *Šurat ha-'areš*, II, §11). In the third chapter the movement of the Sun is explained in terms of the eccentric paradigm (= *Šurat ha-'areš*, II, §12–13), while in the fourth and fifth chapters the more complex movements of the Moon are described (= *Šurat ha-'areš*, III).

The consistent use of the word *super* in place of *de* for 'about' would suggest that the author was thinking in the vernacular (compare Castilian and Catalan *sobre*), but whether that is the implication of odd sentences like the following is not clear to me:

Fol. 17r: 'Tu non potes stare super proportione cursus Solis equalis, nisi prius investigates numerum dierum anni eius'. A more correct Latin version of this would be: 'Non poteris rationem uniformis Solis cursus invenire, nisi prius numerum dierum anni eius investigaveris'. But in Catalan the sentence would run: 'Tu no pots entendre sobre la porporció del curs igual del sol, si primer no investigues el número dels dies del seu any'.

Vernacular influence on the Latin text is also evident in the common use of single consonants in place of double (*mitit*, *afert*, *afligunt*, *mitet* etc.), and the use of non-Classical words such as *bladus* ('cereal'), *baro* ('man/husband') and *cavilla* ('cardinal house').

II. On fol. 22v the subject turns from planetary theory to the computus. A chapter on the divisions of time (*de multiplicatione et diminutione numeri temporum et dierum*), based not on the sexagesimal system known since the introduction of Arabic works in the twelfth century, but on the old system of atoms, moments, parts, minutes, points and hours described by Bede and Isidore, is followed by a paragraph on the course of the Moon in which these time units are employed, which may be the *De luna* of Walcher of Malvern.¹⁰

III. The third section of this compilation begins on fol. 23r with a chapter headed *De naturis et proprietatibus planetarum*. This chapter is followed by another *De amicitia vel inimicitia planetarum*, which ends abruptly on fol 26v without an explicit, and corresponds to a section in the work which I have previously described as the *kitāb al-Istāmātīs*.¹¹

¹⁰ C. H. Haskins, *Studies in the History of Mediaeval Science*, Cambridge, Mass.: Harvard University Press, 1924, second ed., 1927, p. 114.

¹¹ Millás Vallicrosa (*La obra "Forma da la tierra"*), claims that (1) *Šurat ha-'areš* was intended to be the first part of a larger work in which the second and third parts were extant works on astronomy and astronomical tables, and that (2)

* * * *

In Arabic there are several works with similar-sounding names which transmit the same subject-matter, often arranged in different sequences and put down in different wording, but consistently ascribed to Hermes. Whether behind the Arabic texts there lies an original Greek or Syriac document which first set forth this Hermetic material has yet to be discovered. That this Hermetic tradition passed over into the Latin-reading world is demonstrated by the fragments of Latin works containing the same material in the manuscripts of the Sloane Collection and the Biblioteca de Catalunya. To put the Latin fragments into context I shall first describe the Arabic material as it is found in MS Paris, Bibliothèque nationale, ar. 2577.

This text belongs to the class of works with names ending in *-ātīs*, *-ītis*, *-ūtās* and *-akhīs*. The mare's-nest that these texts form is illustrated by the difficulty in finding the correct title of the text in the Paris manuscript. On the first page it is called *kitāb al-Uṣṭuwwatās* of Hermes the Wise. Then on fol. 11r of the work we read 'Aristotle the translator of this book, said that Hermes said...'; and *Qāla Hirmīs* ('Hermes said') alternates with *Qāla Aristātālīs qāla Hirmīs* ('Aristotle said that Hermes said'). On fol. 34r there is the ambiguous reference to 'the end of the *kitāb al-Uṣṭūtās* (*sic*) and this is the first part of the book'. The second book begins with the words 'The second part of the book of Hermes on the spiritual forces' ('rūhāniyyāt'), and again begins with the now familiar formula *Qāla Aristātālīs qāla Hirmīs*. The same words occur several folios later, but this time the text begins:

Hunain ibn Ishāq said: this is one of the books of Aristotle which we found and translated from Greek into Arabic. It is the book of the causes ('ilal') of the spiritual forces by Hermes, and their division over the 7 regions ('aqlim'). And this is the book in which Aristotle explained the causes of spiritual forces and *nairanjā* and their quality ('kaifiyyatihā') and their actions ('a'mālihā') and their essences ('jawāhiriḥā') and their differences divided according to the 7 regions. And this is what Alexander demanded from Aristotle the Wise when he had completed the *kitāb al-Iṣṭamākhīs*, which he had composed for him on his journey to Persia.

Abraham bar Hiyya announced that he would complement this astronomical work with an astrological one, but that (3) this astrological text was never completed, or at least did not survive (see pp. 18–19). It is worth considering whether the third section of our text is related to the lost or uncompleted work of Abraham. The second section of our text is, however, totally foreign to the astronomy of Abraham in which the sexagesimal system is used throughout.

Finally the colophon of the manuscript gives the name of the whole work as 'the book of Hermes on the spiritual forces', and this is the name we adopt. But within the text in the Paris manuscript further sources are given, with the names 'Hermes' book of the hidden and concealed Secrets', 'Hermes' book of the deposit', and 'Hermes' book of the secrets of the world'.

The work begins with a detailed account of the precise relationship between the megacosm and the microcosm, which is valid at both a spiritual and a corporeal level. The megacosm—or universe—has as its outermost component the firmament under which is the corporeal sphere of the twelve signs of the zodiac. The seven planes, which are 'spiritual' entities, act as 'doors' through which the spiritual power of the firmament passes to the signs of the zodiac and to the earth.¹² Man's head corresponds to the firmament, his chest to the sphere of the twelve signs, and his feet to the earth. Through the seven 'doors' of his head—two eyes, two ears, two nostrils and mouth—which are assigned to each of the seven planets—the spiritual influx passes into the chest, where it rules the seven interior organs, the heart, the stomach, the lungs, the liver, the spleen and the two kidneys. In each of these organs resides one psychological faculty, such as intelligence, anger, love, etc... There is a second division whereby the whole of man from head to toe is divided amongst the signs of the zodiac from Aries to Pisces. This is the familiar astrological 'melothesia', but then, just as the planets have their exaltations in certain signs of the zodiac, so the spirits of those planets rule in the parts of the body assigned to the signs in which the planet has its exaltation.

Then in man, too, there are correspondences with the whole of the created world: the heart is in sympathy with two-footed animals, the liver with four-footed animals; to the lungs belong birds, to the spleen, fish; while insects are assigned to the kidneys. More obvious parallels are drawn for the blood (= water), the veins (= rivers), the sinews and nails, which are like rocks, and the bones which are like the mountains. The hair is like plants and trees, while the parts of the body without hair are like deserts.

The spiritual forces multiply like bacteria within man. Venus's spiritual forces are divided through 360 veins; another 900 veins contain Mars' spirits; Jupiter's spirits occupy each of the 560 measures of blood, whereas 12 measure of saliva are occupied by Mercury's spirits. The

¹² For the implication that the signs of the zodiac lie below the planets, compare the similar view that the fixed stars lie between the orbits of the Moon and Mercury, found in several Indian astronomical works and 'Jafar Indus' (a Latin translation from Arabic made by Hugo of Santalla in the mid-twelfth century); see D. Pingree, 'The Indian and Pseudo-Indian Passages in Greek and Latin Astronomical and Astrological Texts', *Viator*, 7, 1976, pp. 141–95 (174).

96,000 hairs are thronged with Saturn's spirits, whereas the mere 28 measures of man's brain belong to the Moon. Finally, 360 measures of fat belong to the spirits of the Sun.

But this is to describe the end-product. In the beginning the earth was without any spiritual content at all. For its first 33,000 years of existence it was barren and without life. Then the spiritual force of the planets became apparent in the waters, and fishes, followed by insects, appeared. After another 11,000 years there appeared four-footed animals. Finally, 55,000 years after the beginning, man appeared on the face of the earth.

Now an interesting variant of the story of Adam and Eve (called here *Admānūs* and *Haywānūs*) is given. All the planets except Saturn were in their exaltations: this meant that they were literally nearer to the spiritual reservoir of the firmament, and, therefore, the spiritual powers that they relayed to the earth were more intense than at any other time. These spiritual forces coalesced into a spiritual being which is called in the manuscript *Hādūs*. Then, by gathering together spiritual forces from the firmament, the zodiac, the planets and the earth, and by sheer willing and concentration of thought, *Hādūs* was able to bring into being *Admānūs*, at first as a kind of zombie without intelligence; then, with a further injection of spirits, as a fully-developed man. *Admānūs* gazes in wonder at his creator. He is lost in contemplation of him, and is fully contented because of his total trust in him. But *Hādūs* induces a deep sleep on *Admānūs*, and extracts part of his flesh and spirits, from which he creates *Haywānūs*—at first as a kind of two-dimensional picture without intelligence. *Admānūs* becomes so engrossed by this picture that it takes on full humanity, and entices him away from the contemplation of his creator *Hādūs*, and into loving and trusting *Haywānūs* instead, until their mutual feeling is eventually consummated in union.

There follows a eulogy of the greatness of Man. He has power over all creatures; he knows all knowledge; he can do all things, see all things, hear all things, eat all things, drink all things. This is because he is the form of forms, embodying in himself the whole of creation, to which he is also connected by the matrix of spiritual forces.

From this natural relationship with all things as the microcosm, and as a result of the wisdom infused in him from on high, man has the power to manipulate nature. And it is the instructions for doing this—i.e., for working magic—that occupy the rest of this long work. The 'first part' of the work ends with an account of the purpose of the magical images or talismans, to be made in each of the 28 mansions of the Moon. The second part of the work—*Hunain ibn Ishāq's* translation of *Hermes' book of the causes of spiritual forces*—specifies that different procedures for

working magic must be followed in each of the seven regions of the world. For each of these regions is under the dominion of a different planet, which dictates the character, the religion and the laws of the people under its jurisdiction. To each of the planets and to each of the spiritual forces of their different 'directions' a magical name is given. Three of the planets' spiritual forces—the upper, the in front and the behind—are not composed with earthly beings; but the four others are so composed. For all these composed spiritual forces there are particular animals, trees, herbs, gems and minerals. For example, to the Sun are ascribed rapacious animals, including the *Filam* in China, which is like an elephant, but has a long neck instead of a trunk, wild cows, lions and poisonous snakes, all fragrant trees with fruit that has a good taste, such as figs, quinces, apples and pears, and every red spice, good to smell, like nard, sweet cyperus and sandalwood, rice and white beans, and gold, ruby, carnelian and every red gem.

A story is told concerning the revelation of the knowledge of the spiritual forces of the planets for each region. We will summarize, as an example, the story concerning Saturn's region, which is India ('Hind').

At a time when the inhabitants of India had no law and were like wild animals in their way of life, their King, called *Safnadūla*, was visited in a dream by the spirit of Saturn in the form of a black man. Acting according to Saturn's instructions, *Safnadūla* summoned 72 leaders of the people of his region, on an appointed day and at a specified place, where, after fumigation of specific organic and inorganic matters and a sacrifice in front of a statue of Saturn, the same black man came out of the statue, dressed in clothes coloured black, yellow and green, and endowed each of the 72 elders with one of the 72 spirits of Saturn. From these spirits they were given knowledge, and were able to exercise control over their affairs. Moreover, after appropriate purifications, wearing of ceremonial clothing, sacrifice, preparation of food and incantations (the magical words to be addressed to each planet are given) each could summon up his spirit in visible form, and that spirit would do his bidding.

The knowledge with which the 72 elders are endowed is primarily that of making talismans or *nairanjāt* (the Arabic form of a Persian word for the same object) and the rest of the section on each planet is devoted to the recipes for making poisons and potions (with their antidotes) with such ingredients as monkey brain, buffalo milk, elephant urine, and other noxious things; but also herbs and spices such as cloves and camphor. Finally, there are instructions for making the signet ring of each planet. The kind of gem to be set in the ring is described first. On this, on the planet's day and at the planet's hour, the image of the planet is inscribed on the outside, and on the inside magic letters or cryptographs are

written. Then the stone is set in a ring of a particular metal, and the ring gives its wearer particular powers.

* * * *

Whether all this material was ever translated into Latin we do not yet know. The section on talismans to be made in each of the twenty-eight mansions of the Moon formed a separate tract in Arabic, which was either incorporated into the book of Hermes on the spiritual forces, or excerpted from it; it appears in a Latin translation.¹³ The fragment of the translation in the Sloane manuscript headed 'Antimaquis' (= *Istāmākhīs*?), in addition to the material shared with the Barcelona fragment, includes the description of the microcosm, the spiritual forces of each of the planets, and the various animals, plants, spices, minerals and gems associated with them. The section shared by the Sloane and the Barcelona manuscript corresponds to the opening of the second part of Hermes' book on the spiritual forces, as found in the Paris manuscript, and also in MS Oxford, Marsh 556, where the material appears under the title '*kitāb al-Mādītīs* ... a commentary on the *kitāb al-Istāmātīs*'.

In the following edition the orthography of the Latin manuscripts has been retained, and no attempt has been made to emend the two texts even in places where the errors are blatant (as for example *fortuitum* for *fornicationem* in sentences 89 and 108 in the Sloane manuscript). In the case of unique manuscripts of texts emendations can only be made on the basis of guesswork, and the very mistakes and peculiarities of spelling can reveal information about the translators or scribes of the texts. Punctuation has been modernized and sentence numbers have been added. Missing letters in words, and missing sentences or parts of sentences have been signalled by pointed brackets.¹⁴

¹³ The Latin text is edited in my 'Arabic, Greek and Latin Works on Astrological Magic attributed to Aristotle', in *Pseudo-Aristotle in the Middle Ages*, eds Jill Kraye, W. F. Ryan and C. B. Schmitt, London, 1986, pp. 84–96 (90–3) [article II in this volume].

¹⁴ An edition of the entire Sloane fragment (the *Liber Antimaquis*), together with a detailed comparison with the Arabic text, will be published in volume V of *Hermes latinus*, ed. P. Lucentini.

British Library, Sloane 3854, fol. 105v

[1] Iste liber est spiritualium operum aristotilis et est liber Antimaquis qui est liber secretorum Hermetis. [2] Opera mira possunt operari per hunc librum et est liber antiquus septem planetarum.

[3] Liber Antimaquis

[4] Cuilibet populo septem climatuum pertinet unus modus spirituum. [5] Quia quilibet ibi habet partem suam per corpus et membra ita quod isti et iste ordinationes ita spiritualia sunt secundum divisiones corporum planetarum septem et secundum gressus eius per 12 signa. [6] Quia per ista poterimus intelligere eius fortunam vel infortunam quia de illis veniunt in mundum spiritus qui (quia MS) sunt divisi ad quamlibet gentem septem climatuum. [7] Et quilibet planeta habet spiritum proprium qui descendit de eo et gubernat habitatores qui sunt in suo climate. [8] Et quilibet spiritus contrarium et scissorem alterius planete cui adversatur in factis suis. [9] item quilibet illorum habet adiutorium alterius planete qui est de natura eius. [10] Maior mundus est divisus in 12 partes et illud est celum /fol. 106r/ et omnia que sunt in eo. [11] Et celum ambulat in circuitu per 12 signa. [12] Signa autem sunt duodecim et planete septem. [13] Et isti sunt gubernatores mundi. [14] Et terra similiter divisa est in partes duodecim sicut firmamentum est, de quatuor quadratis et septem membris. [15] Quatuor quadrati sunt quatuor qualitates naturarum que sunt calidum, frigidum, humidum, siccum. [16] Septem membra sunt septem climata que sunt divisa per septem planetas que sunt gubernatores mundi. [17] Et innuunt virtutes suas et virtutes 12 signorum et suorum spirituum omnibus rebus terrestribus. [18] Et sicut firmamentum est divisum in 12 signa, ita terra in 12 partes sic quod quodlibet signum habet potestatem in parte sua.

[19] Aries est divisio terre de Zim usque ad finem terre quam incipit primus planeta. [20] Taurus est divisio Acius et illud est templum Alboloth usque ad finem terre secunde planete. [21] Gemini est divisio terre Morabis et est ab Foxell usque ad finem tertie planete. [22] Cancer divisio est Nigrorum usque ad finem quarte planete. [23] Leo divisio terre Romanorum et Annahius /fol. 106v/ usque ad finem terre quinte planete. [24] Virginis est divisio Gibelyz et Gellach et Belhan usque ad finem sexte planete. [25] Libre est divisio terre Babilonie et Adraygur (ad Raygur MS) et Fessen et terra Turcorum usque ad finem septime planete. [26] Scorpius est divisio terre de Achivos que sunt Montana Achaurus et terre eorum et habitaciones. [27] Sagittarius est divisio terre Helicanios que est terra de Lalan Dorcha Echra et Hanilis terre orientalis et quod continetur in eis.

Barcelona, Biblioteca de Catalunya, MS 634, fol. 25v

De amicitia vel inimicitia planetarum

[29] Item sciendum quod in mundo sunt quatuor anguli, scilicet oriens, occidens, septentrio, et meridies, et hii sunt divisi secundum quatuor qualitates, [30] quia orientis est caliditas, occidentis frigiditas, septentrionis siccitas, meridiei humiditas. [31–33] Item mundus divisus est per .vii. climata, secundum quod sunt .vii. planete, quorum quilibet regit et gubernat suum clima. [34–40] Terra Indie est Saturni, terra Rome est Iovis, terra Turcorum et Tartarorum est Martis, terra Jurgei est Solis, terra Arabie est Veneris, terra Persie est Mercurii, terra Babilonie est Lune. [41–43] Horum enim quilibet suum clima gubernat eundo per .xii. signa, et unus potest iuvare ad factum alterius si est paris vel similis virtutis, aut etiam nocere, si et dissimilis vel contrarie virtutis.

[44] Pro cuius evidencia est sciendum quod quando unus planeta intrat domum alterius vel in suam exaltationem, turbat virtutem illius in suo climate, et mutat naturam alterius in suam. [45] Nam si unus planeta facit amicitiam cum alio, tunc gentes illius climatis habent amicitiam inter se. Si autem unus planeta facit inimicitiam cum alio, tunc gentes illius climatis habebunt inimicitiam inter se, et hoc contingit ratione virtutum et influenciarum a dictis planetis procedentium.

[46] Unde quando Saturnus intrat domum Iovis, contrariatur ei et eius est inimicus, et ideo causat contrarietates et inimicitias inter gentes climatis Iovis. [47] Et si intrat in sua exaltatione, multum dampnum afert populis dicte (*sic*) climatis donec exiit ab illo. [48] Si intrat domum Martis, causat rixas et guerras inter gentes illius climatis, in tantum quod se ad invicem interficiunt. [49] Et si intrat gradum sue exaltationis, facit populos discordantes et eorum voluntates erigere contra suum regem. [50] Si intrat domum Solis, non ponit ibi inimicitias, set dat gentibus illius climatis siccitatem et infirmitates. [51] Et si intrat in sua exaltatione, facit pervenire eis dapnum et timorem ex parte ipsorum regum. [52] /fol. 26r/ Si intrat domum Veneris, iuvat eum suo spiritu et virtute, et mitit vires in gentibus illius climatis ad vincendum inimicos, et hoc propter amicitiam que est inter Saturnum et Venus (*sic*). [53] Et si intrat in eius exaltatione, faciet eis dapnum. [54] Si intrat domum Mercurii, nullum malum infert gentibus illius climatis, et eos asecurabit de suis inimicis. [55] Et si intrat in eius exaltatione, faciet eis dapnum. [56] Et si intrat domum Lune, gentes illius climatis inter se habebunt pacem. [57] Et si intrat in sua exaltatione, dabit populis infirmitates, siccitatem et paupertatem.

Sloane MS

[29] Quatuor anguli qui dividuntur per quatuor qualitates sunt oriens, occidens, meridies, septentrio. [30] Caliditas est orientis, frigiditas occidentis, humiditas meridiei, siccitas septentrionis. [31] Climata sunt septem, que dividuntur per septem planetas ita quod quelibet planeta suum gubernat clima. [32] Et ista septem climata comprehendunt 12 signa que dividuntur per 12 divisiones terre. [33] Et per illum modum /fol. 107r/ dividuntur septem climata per septem planetas. [34–40] Terra de Virgen est Solis. Terra Babilonie est Lune. Terra Turcorum est Martis. Terra Persie et Mercurii. Terra Romanorum est Iovis. Terra Arabum est veneris. Terra Indie est Saturni. [41] Et ista septem climata divisa per septem planetas. [42] Et quelibet planeta suum gubernat clima. [43] Et in procedendo per 12 signa potest quelibet planeta iuvare vel impedire factum alterius planete, ita quod apparebit virtus eius in alio climate quod non est suum per istum modum.

[44] Quando unus planeta intravit domum alterius aut suam exaltacionem, impedit virtutem eius in suo climate et mutabit naturam eius, secundum quod fuerit potestas eius in eo aut secundum quod fuerit amicus vel inimicus illius planete. [45] Quia iste septem planete habent amicitiam et inimicitiam et convenienciam et disconvenienciam, quidam cum aliis, ut videmus gentes unius climatis quod aliquando est amicitia [est] inter eos, aliquando inimicitia, propter virtutes spirituales /fol. 107v/ que a planetis veniunt.

[46] Sicut quando Saturnus venit in domo Iovis, est sibi contrarius quia est inimicus eius. [47] Et quando intravit eius exaltacionem, facit dampnum in suo climate et malum suo populo donec exeat inde. [48] Et quando Saturnus intrat domum Martis, impedit eum et facit quod populus sui climatis interficiatur quidam cum aliis. [49] Et si intraverit gradum sue exaltacionis, facit eos discordare contra suum principem et regem. [50] Et si Saturnus intraverit domum Solis, non mittet inter eos discordiam set erit siccitas et infirmitates. [51] Et quando intraverit suam exaltacionem, eveniet dampnum populo climatis et terre a parte suorum regum. [52] Et si Saturnus intraverit domum Veneris, iuvabit eum cum suo spiritu et robrabit gentes sui climatis quo devinct suos inimicos, propter amicitiam que est inter eum et Venerem. [53] Et si intraverit suam exaltacionem, devinct gens illius climatis suos inimicos et habebunt potestatem super illos. [54] Et si Saturnus intrat domum Mercurii, erit securus ab eo et gentes illius climatis erunt securi ab inimicis suis quia non impediunt eos in /fol. 108r/ aliquo. [55] Et si intraverit eius exaltacionem, recipiet iniuriam a suis regibus. [56] Et si Saturnus intraverit in domum Lune, populi illius climatis spoliabuntur a suis inimicis et facient eis dampnum et ipsi habebunt pacem inter se. [57] Et si intraverit eius exaltacionem, populus illius climatis pacietur infirmitates.

Barcelona MS

[58] Iupiter quando intrat domum Saturni, facit temperale et docet hominibus illius climatis sapientiam et scientiam et eorum turbat infortunium, datque eis fortitudinem ex sua natura. [59] Et si intrat in sua exaltatione, generat in regibus bonam voluntatem erga populos illius climatis, et facient eis bonum et cum illis gaudebunt. [60] Si intrat domum Martis, aufert ab eo malam voluntatem quam habebat ad populos illius climatis, et non se interficient, et concordabit eos et faciet esse bone voluntatis. [61] Et si intrat in sua exaltatione, faciet esse reges bone voluntatis erga populos et gaudebunt cum eis. [62] Si intrat domum Solis, crescet populus illius climatis magna sapientia et scientia, et erunt magni et acuti intellectus. [63] Et si intrat in sua exaltatione, faciet illos intelligere scientias quas intelligere et scire laborant et que antea nesciebant. [64] Et si intrat domum Veneris, concordabit populos illius climatis in eadem voluntate et bonum eis faciet et defendet ab eorum inimicis. [65] Et si intrat in sua exaltatione, gaudebunt populi cum eorum regibus, et erunt securi a pestilenciis et infirmitatibus. [66] Si intrat domum Mercurii, illud clima omni bono habundabit, et erit fertile et bonum annum panis et fructuum habebunt gentes, et custodientur a pestilenciis. [67] Et si intrat in sua exaltatione, permutabit eis malum regem pro bono, qui eos tenebit in iusticia et directo et eis faciet multum bonum. [68] Si intrat domum Lune, generabit in populis illius climatis magnum intellectum et subtilitatem. [69] Et si intrat in sua exaltatione, rex illius climate erit bene fortunatus et bone venture, et omnes populi gaudebunt cum eo.

[70] Mars si intrat domum Saturni, contrariabitur ei, et ideo contrarietates et guerras in populis illius climatis generabit, et unus contra alium insurgent, et se interficient. [71] Et si intrat in sua exaltatione, populi interficient reges suos et in legibus discordant. [72] Si intrat domum Iovis, asecurabit eum et malum non faciet in suo climate. <[73] ... > [74] Si intrat domum Solis, est victus et non potest ei malum facere. [75] Si intrat domum Veneris, iuvat populos eius climatis ad vincendum et interficiendum inimicos. [76] Si intrat domum Mercurii, destruit voluntates populorum illius climatis contra eorum regem, et auferent potestatem ab eo. [77] Et si intrat in sua exaltacione, occident eum, et se invicem postea interficient. [78] Et si intrat domum Lune, nullum malum facere poterit in eius climate.

[79] Sol si intrat domum Saturni, illud clima erit vic<tu>osum et fertile et habundabit omni bono, et concordabit populus cum rege suo. [80] Et si intrat in eius exaltacione, dabit regi bonam voluntatem erga populos suos, et gaudebunt simul, et faciet eis magnum bonum. [81] /fol. 26v/ Si intrat domum Iovis, et in sua exaltacione, faciet crescere populos illius climatis in magna scientia et intellectu. [82] Si intrat domum Martis, custodiet populos illius climatis quod nullum malum accipient nec sibi invicem facient. [83] Et si intrat in eius exaltacione, concordabit reges et populos in bona voluntate.

Sloane MS

[58] Si Iupiter intraverit domum Saturni, temperabit eum et ostendet sapienciam illi climati auferens infortunia, et dat eis fortunam. [59] Et si intraverit in eius exaltacionem, faciet bonum regem populi illius climatis et reges facient bonum populis et habebunt gaudium cum eis. [60] Et si Iupiter intraverit domum Martis, auferet eius suam substanciam que erat in populo illius climatis, quod non interficient se quidam cum aliis. [61] Et si intraverit eius exaltacionem, faciet quod reges sint bone voluntatis contra populum suum et gaudebunt cum eis. [62] Et si Iupiter intraverit domum Solis, crescet in populo illius climatis magna sapiencia et sciencia et intellectus. [63] Et si intraverit eius exaltacionem, faciet eos intelligere /fol. 108v/ sciencia et quod habebunt in eis quod antea nesciebant. [64] Et si intraverit eius exaltacionem, populi illius climatis gaudebunt cum suis principibus et custodientur ab omnibus pestilenciis et infirmitatibus et siccitatibus. [66] Si Iupiter intraverit domum Mercurii, illud clima habundabit omni bono et erunt boni anni in pane et fructibus et custo—diatur ab omnibus pestilenciis. [67] Et si intraverit eius exaltacionem, auferet eius malum regem pro bono tenenti eos ad ius et iusticiam, faciens eis bonum. [68] Si Iupiter intraverit domum Lune, crescet populo illius climatis intellectus et substancialitas. [69] Et si intraverit eius exaltacionem, faciet regem illius climatis bone voluntatis contra populum et gaudebunt cum eo.

[70] Si Mars intrat domum Saturni, facit quod populus illius climatis interficiatur quidam cum aliis. [71] Et si intrat exaltacionem eius, facit populum climatis interficere regem suum. [72] Si Mars intrat domum Iovis, securat eum, nil mali faciens ei. [73] Et si intrat eius /fol. 109r/ exaltacionem < ... >. [74] Si Mars intraverit domum Solis, devincitur ab eo, non potens ei facere malum aliquod. [75] Si Mars intrat domum Veneris, iuvat populum illius climatis ad interficiendum inimicos suos. [76] Si Mars intrat domum Mercurii, dampnatur populus illius climatis contra regem suum et exponunt eum. [77] Et si intraverit eius exaltacionem, interficient regem suum et interficientur <quidam> cum aliis. [78] Et cum Mars intrat domum Lune, non potest ei facere malum.

[79] Si Sol intrat domum Saturni, mittit illuc spiritum suum fortunatum; ita clima illud erit habundans et populus concordabit cum rege suo. [80] Et si intrat eius exaltacionem, dabit bonam voluntatem regi contra populum suum et erit supplicans eis et honorabit eos et gaudebit cum eis et ipsi cum eo. [81] Quando Sol intrat domum Iovis et eius exaltacionem, crescet populo illius climatis magnus intellectus, sapientia multa et bonum. [82] Cum Sol intrat domum Martis, custodiet populum illius climatis cum suo spiritu fortunato et aliquod facient malum quibusdam aliis. [83] Et quando intrat eius exaltacionem, dat regi bonam voluntatem contra populum suum et populo contra regem. /fol. 109v/ [84] Si Sol intrat domum Veneris, dirigit populum

Barcelona MS

[84] Si intrat domum Veneris, asecurabit populos illius climatis in omni bono, et faciet eos bonos, veridicos et fideles, et pacem ponet inter eos. [85] Et si intrat in sua exaltacione, terra eorum erit fertilis et habundans in pane et fructibus. [86] Si intrat domum Mercurii, ponet gratiam in populo illius climatis, et etiam faciet mercatum de blado. [87] Et si intrat in sua exaltacione, terra eorum erit fertilis et habundans in pane et fructibus. [88] Si intrat domum Lune, crescet magnum bonum in illo populo, et magna scientia et sapientia, et posse magnum dabit eis.

[89] Venus si intrat domum Saturni, generabit fornicaciones in populo, et homines <non> diligent uxores. [90] Et si intrat in sua exaltacione, dabit malam voluntatem regi contra populum, et eos afligunt iniusticia et interficiet. [91] Si intrat domum Iovis, concordabit voluntates baronum cum uxoribus, et terra habundabit omni bono. [92] Et si intrat in sua exaltacione, custodiet populum a dampno et infirmitate et faciet eos esse bonorum morum et conversacionum. [93] Si intrat domum Martis, fient in illo climate multe prave mulieres et se invicem odientes. [94] Et si intrat in sua exaltacione mitet in populis discordias, guerras, pestilencias, siccitatem et paupertatem. [95] Si intrat domum Solis, in sua exaltacione asecurabit eum, et <n>ullum faciet sibi malum. [96] Si intrat domum Mercurii, iste populus devictus erit ab inimicis, et ab uxoribus, et multa fornicacio erit ibi. [97] Et si intrat in sua exaltacione, erunt ibi mortalitates et pestilencie in bladis et arboribus. [98] Si intrat domum Lune, nullum malum faciet in suo climate.

[99] Mercurius si intrat domum Saturni, erit pax inter gentes illius climatis, et si intrat in sua exaltacione, subtiliabit eos. [100] Si intrat domum Iovis, contrariabitur ei et erit discordia inter gentes. [101] Et si intrat in sua exaltacione, erit discordia inter regem et populum. [102] Si intrat domum Martis, dapnum faciet populis illius clime, et erit mala voluntas inter eos, et ponet inter eos pavorem et timorem et paupertatem et malum. [103] Et si intrat in sua exaltacione, guerram ponet in populis, et se invicem interficient sine ratione. [104] Si intrat domum Veneris, mitet mortalitates in populo illius clime et vincentur ab inimicis. [105] Et si intrat in sua exaltacione ponet malam voluntatem inter eos et ipsorum reges. [106] Si intrat domum Solis, illud clima habundabit omni bono et erit vic<t>uosum. [107] Si intrat domum Lune, asecurabit populos et nullum malum faciet eis.

[108] Luna si intrat domum Saturni, prevalebit in illo climate virtus et spiritus Lune. [109] Si intrat domum Iovis, ponet dilectionem in populis, et crescent in eis scientia et boni mores. [110] Si intrat domum Martis, mitigabit eum. [111] Si intrat domum Solis, generabit inter eos amorem et dilectionem, et crescent in eis scientia et boni mores. [112] Si intrat domum Veneris, custodiet eius clima ab omni malo, et a malis moribus. [113] Si intrat domum Mercurii, crescent in populis scientia et intellectus in omnibus bonis peragendis.

Hii enim planete eorum spiritus et virtutes quas recipiunt a .xii. signis zodiaci, transmittunt omnibus rebus creatis secundum astrologos.

Sloane MS

illius climatis ad omne bonum, faciens eos veraces et legales et mittit pacem inter eos <[85] ... [86] ... > [87] Et quando intrat eius exaltacionem, populus illius climatis recipiet placitum a rege suo. [88] Quando Sol intrat domum Line, crescit bonum illius climatis et sapientia et potestas.

[89] Venus quando intrat domum Saturni mittit fortuitum (*sic*) in populo illius climatis et viri non diligent uxores suas. [90] Et quando intrat eius exaltacionem, rex habebit malam voluntatem contra populum suum et interficiet ex eis et eis faciet iniuriam. [91] Quando Venus intrat in domum Iovis, facit voluntates hominum concordare cum mulieribus et erit terra habundans et bona. [92] Et quando intrat exaltacionem eius, custodit populum ab infirmitate et dampno et faciet eos bene morigeratos. [93] Quando Venus intrat domum Martis, faciet in illo climate multa mala et plures meretrices et non diligent se quidam cum aliis nec diligent suum regem. [94] Et quando intrat exaltacionem eius, mittet (veniet MS) inter populum illum /fol. 110r/ guerram et discordias, tormenta, pestilencias, paupertatem et siccitatem. [95] Quando Venus intrat domum Solis aut eius exaltacionem, securat eum et non facit malum populo illius climatis. [96] <... > [non] devincetur a suis inimicis et mittet totum suum posse in cordibus suarum mulierum et erit ibi multum fortuitum (*sic*). [97] Et quando intrat exaltacionem suam, cadent inter homines illius climatis occisiones et pestilencie in arboribus <et> segetibus. [98] Quando Venus intrat domum Lune, non faciet malum aliquod in suo climate.

[99] Mercurius quando intrat domum Saturni non impedit populum suum <... > [100] Quando Mercurius intrat domum Iovis, faciet eius contrarium et quod habebunt potestatem super aliis. [101] Et quando intrat suam exaltacionem, mittet discordiam inter populum et regem in suo climate. [102] Et quando intrat domum Martis, est dampnum populo illius climatis et non diligent se et mittet inter eos terrorem et metum, paupertatem et malum. [103] Et quando intrat exaltacionem, mittit guerram inter populos et interficientur sine causa <[104] ... [105] ... > [106] Et quando Mercurius /fol. 110v/ intrat domum Solis, erit illud clima habundans bonis. <[107] ... >

[108] Luna quando intrat Saturnum, mittit fortuitum (*sic*) in populo illius climatis. [109] Si intrat domum Iovis, mittit in populo illius climatis amorem et crescit eius sapientia et bonitas. [110] Et quando intrat domum Martis, habebit potestatem in climate illo et custodiet eos a guerra et faciet eos bene morigeratos. [111] Et quando intrat domum Solis, crescit in populo sapientia et boni mores, et adiuvaunt se ad invicem. [112] Luna intrans domum Veneris custodiet illud clima ab omni malo et de malis moribus. [113] Et quando intrat domum Mercurii, crescet populo illius climatis sapientia et intellectus et bonum in omnibus rebus.

VIII

Scandinavian Runes in a Latin Magical Treatise

Postscript by Marie Stoklund

- * Manuscript Sloane 3854 of the British Library is of interest because it contains the fullest known Latin version of an important Arabic Hermetic treatise concerning astral magic.¹ The original work, the *kitāb al-Iṣṭamātīs*, was a source of the best-known medieval compendium on magic, the *Ghayat al-Hakīm* (known in its thirteenth-century Latin translation as *Picatrix*). Hermann of Carinthia in 1143 cited a passage from *al-Iṣṭamātīs* in Latin, and William of Auvergne appears to have known the work in the early thirteenth century.² Sloane 3854 provides evidence that a large portion at least of *al-Iṣṭamātīs* was translated into Latin. The heading of the work in the manuscript is:

Iste liber est spiritualium operum Aristotilis et est liber Antimaquis qui est liber secretorum Hermetis. Opera mira possunt operari per hunc librum et est liber antiquus septem planetarum. Liber Antimaquis.³

(This book belongs to the spiritual works of Aristotle, and it is the book *Antimaquis*, which is the book of the secrets of Hermes. Wonderful works can be effected through this book and it is the ancient book of the seven planets. The book *Antimaquis*.)

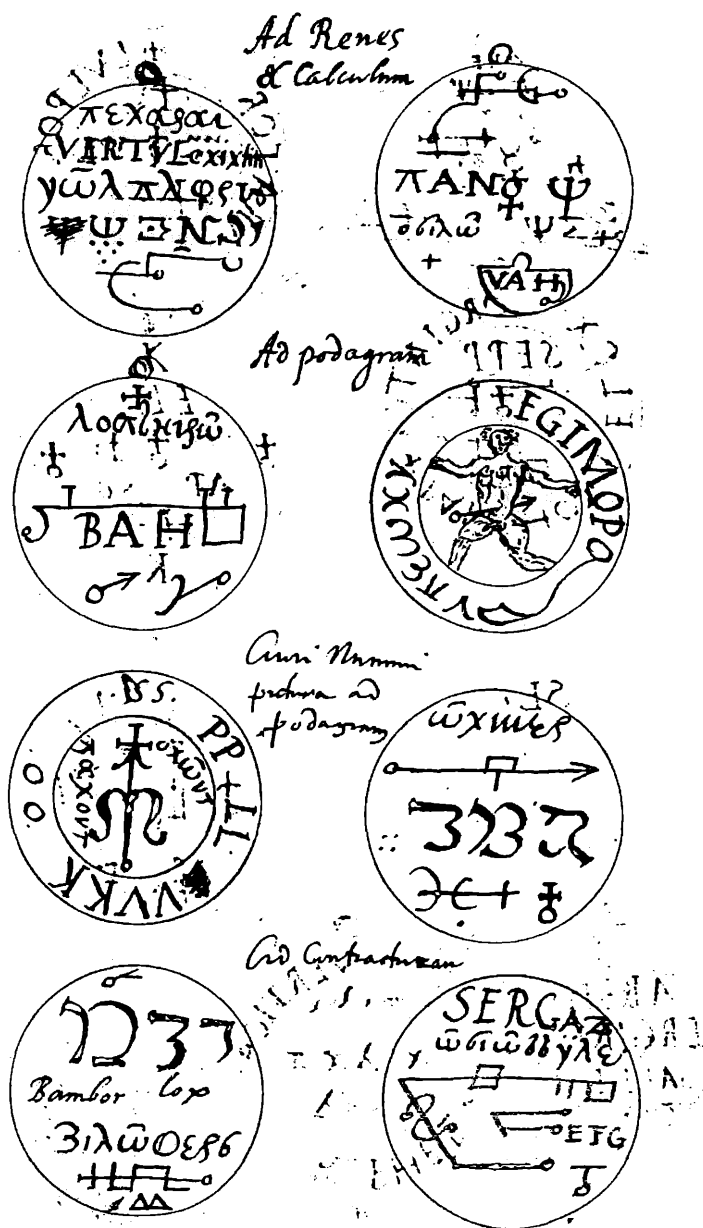
- * Sloane 3854 is of fourteenth-century Italian provenance. The four gatherings which contain the work (together with a fragment of salacious *novelle* with topical Italian references) have evidently been taken from another manuscript. They have been subjected to some confusion, perhaps deliberately engineered by the "magician": folios have been sewn into the gatherings in the wrong order, and two gatherings have been interchanged. More-

I should like to express my gratitude to Dr. Ray Page of Corpus Christi College, Cambridge; to Professor Paul Kunitzsch of Munich; and to an anonymous referee for reading a previous draft of this article and providing helpful comments and information.

¹ See Lynn Thorndike, *History of Magic and Experimental Science*, 1 (New York, 1923), p. 260, and Charles S. F. Burnett, "Hermann of Carinthia and the *kitāb al-Iṣṭamātīs*," *Journal of the Warburg and Courtauld Institutes* 44 (1981), 167–69.

² See Hermann of Carinthia, *De essentiis*, ed. Charles S. F. Burnett (Leiden, 1982), p. 318.

³ Sloane 3854, fol. 105v.



I. Magic rings; the Conte de Sarzana Magical Manuscript, p. 96.

THE EARLIEST CHIROMANCY IN THE WEST

THE PRACTICE of reading the future, or divining the character and disposition of a person from the lines and other indications in the palm of the hand, is ancient and widespread. For the classical tradition we have references in Artemidorus, Pollux and Suidas.¹ An observation by Aristotle in *Historia animalium* 1.15 concerning the significance of the lines in the palm added a certain respectability to the subject.² However, the practice remained at a popular level of culture. No treatise appears to have survived from classical times. The only Greek text known has been transmitted in two manuscripts of the thirteenth and the fifteenth century respectively,³ and there is no way of telling how much the text predates the earlier manuscript.

The detailed investigations of Craig,⁴ Thorndike,⁵ Pack,⁶ and Schmitt and Knox⁷ have

turned up no Latin manuscript on the subject earlier than the thirteenth century. Moreover, even references to the practice of chiromancy in Latin works appear to be absent between classical times and the mid-twelfth century.⁸ John of Salisbury, in his *Policraticus*, refers to

(hereafter *AHDLMA*), xxxvi, 1969, pp. 189–241: this chiromancy is the text beginning: Cum diversi diversa de arte . . . (my chiro.D below), and is closely related to the 15th cent. English chiromancy edited and translated by Derek Price as *An Old Palmistry*, Cambridge 1953; idem. 'Pseudo-Aristoteles: Chiromantia', *AHDLMA* xxxix, 1972, pp. 289–320 (the text: Cyromancia est ars demonstrans mores . . . ; my chiro.E).

⁷ C. B. Schmitt and Dilwyn Knox, *Pseudo-Aristoteles Latinus: a Guide to Latin Works Falsely Attributed to Aristotle before 1500*, Warburg Institute Surveys and Texts xii, London 1985, pp. 21–24. This lists 41 MSS of chiromancies attributed from time to time to Aristotle.

⁸ Juvenal (*Satire* vi.583) refers to a client presenting his forehead and hand to soothsayers; Pliny, *Nat. hist.* xi, 114 cites Aristotle's statement (n. 2 above). Neither the current medieval Latin dictionaries nor Pack in his survey of medieval lists of condemned divinatory practices ('Pseudo-Aristoteles: Chiromantia', as in n. 6 above, pp. 289–91) attests to another reference to chiromancy before the *De divisione philosophiae* of Dominicus Gundissalinus (written c. 1160): ed. L. Baur, pp. 119–20: 'cum enim multo sint sciencie iudicandi de proposita questione ut . . . ciromancia in manu, et multe alie . . . hec [sc. astronomia] ceteris dignior est. . .') and John of Salisbury's *Policraticus* (see below). These two works are the earliest texts in which the terms *chiromantia* and *chiromanticus* appear in Latin. Neither the practice nor the terms are mentioned in Hugo of St Victor's *Didascalicon*. The appearance of the term *cheiromantia* in the mid-twelfth century might be compared with the adoption, at about the same time, of the word *geomantia* for a kind of divination which was being introduced from Arabs — the 'ilm al-raml' or 'sand-divination' (see T. Charmasson, *Recherches sur une technique divinitaire: la géomancie dans l'occident médiéval*, Geneva-Paris 1980). The use of the word *chiros* (from Greek *cheir*) for hand or palm is universal in the early Latin texts, but has not been noted in the published dictionaries. Unless it can be shown that Latin chiromancy derives from Greek — for which at present there is no evidence — I would attribute the use of this word to the same scholastic trend which substituted Greek terms for Arabic in scientific translations from Arabic of the twelfth century (e.g. the above-mentioned *geomantia*, terms such as *telesmatici*, *genethlia* in astrological works, and *parallelogramma* and *isosceles* in geometry).

¹ The references to chiromancy in Greek works have been conveniently brought together by F. Boll in *Catalogus codicum astrologorum Graecorum* vii, Brussels 1908, pp. 236–37.

² *Hist. anim.* 1.15, 493b32: 'The palm of the hand is fleshy and divided by lines — one or two passing across the whole palm for those who live long, two lines which do not pass right across for the short-lived.'

³ Ed. F. Boll, op. cit., pp. 237–44. The Greek text includes the astrological dimension found in Craig's classes II and III (see n. 4 below). There is an Arabic tradition of palmistry-treatises (e.g. MSS Berlin, Ahlwardt 4255–8) but this appears to have no relevance to the Western tradition. For Hebrew chiromancy see the article on 'Chiromancy (Palmistry)' by G. Scholem in *Encyclopaedia Judaica*, v, 1971, cols 477–79.

⁴ Hardin Craig, *The Works of John Metham*, Early English Text Society 132, London 1916, pp. xix–xxix. This provides a useful classification of Latin chiromancies.

⁵ Lynn Thorndike, 'Chiromancy in Mediaeval Latin Manuscripts,' *Speculum*, xi, 1935, pp. 674–706. This includes an edition of the *Summa chiromantie* ascribed to 'John the Philosopher'.

⁶ R. A. Pack, 'A Pseudo-Aristotelian Chiromancy', *Archives d'histoire doctrinale et littéraire du moyen âge*

chiromancy as a new form of divination which has lately sprung up.⁹ The *Policraticus* was completed in 1159, and it is at precisely this time that a hitherto unnoticed text on chiromancy was copied into a Latin manuscript at Canterbury — the so-called Eadwine Psalter (henceforth Ead).¹⁰

This chiromancy (henceforth chiro.A) is not unknown. It is found in Oxford, Bodleian Library, MS Ashmole 399, fols 16^v–17^r (B: Pl. 50), *ibid.* fols 60^v–^v (A), London, British Library, Sloane 2030, fols 125–26 (S), and Sloane 323, fols 189^v–191^v (Z). Of these, text B in Ashmole 399 — a late-thirteenth-century deluxe edition of works on divination and medicine whose detailed illustrations are well-known¹¹ — is closest to Ead. Nevertheless the readings of Ead seem to be more dependable than those of any other manuscript. Ead lacks the illustrations of the hands that are found in the other manuscripts.¹² These, however, are not referred to in the text, and it is possible that they are subsequent to chiro.A in that phrases from chiro.A are used in the rubrics to the hands.¹³

⁹ *Policraticus* 1. ed. C. C. J. Webb. Oxford 1909, 1.50: 'Varro autem curiosissimus inter philosophos quattuor species divinationis ab elementis mutuatus est, piromantiam scilicet, aerimantiam, ydromantiam et geomantiam, multasque species videbis ex his capitibus pullulare, sive arte sive furore divinatione peragatur, quarum nomina exempli causa vel pauca subiciam'. *Ibid.*, 1.12, p. 52: 'Chironomantici sunt qui a manuum inspectione rerum vaticinantur abscondita.'

¹⁰ The MS is at present Cambridge, Trinity College R. 17.1 and has been reproduced in facsimile in M. R. James, *The Canterbury Psalter*, London 1935. Current scholarship places the completion of this elaborate Psalter in c. 1160. The chiromancy together with an onomancy have been added at the end of the manuscript by one of the scribes who has copied the Psalms. This chiromancy is edited and translated in the Appendix.

¹¹ See L. C. McKinney and H. Bober, 'A Thirteenth-Century Medical Case History in Miniatures', *Speculum* xxxv, 1960, pp. 251–59.

¹² See Ashmole 399, fol. 17^r (Pl. 50) for a particularly fine example of the hands.

¹³ Chiro.A, 29 corresponds to a rubric on the thumb of the right hand, reading: 'Hec sunt signa fidelitatis et infidelitatis, que si coeunt, infidelitatem et suspensionem signant' (S, fol. 126^r); chiro.A, 51 corresponds to a rubric referring to lines at the base of the little finger of the right hand: 'Hec sunt signa vulnerum corporis infra genua — magna futurorum, parva preteritorum'; for chiro.A, 52 see the rubric to similar signs at the base of the middle finger: 'Hec sunt signa vulnerum corporum — lata futurorum, subtilia preteritorum.' It is possible that the space at the bottom of the second

The addition of the word *etc* at the end of the text in Ead might suggest that this copy is incomplete. However, all the other manuscripts of chiro.A end in the same place, with the exception of S which continues with a completely new (though related) text (chiro.A2) which will be mentioned again below. Ead is obviously a neat copy of another exemplar — the error *palicie* for *palme* attests to this — but we appear to be close to the source of the tradition of chiro.A.

Is it possible that chiro.A is the earliest form of a chiromancy in the West, and is there a possibility that its occurrence in a Canterbury Psalter of c. 1160 is not accidental?

In comparing chiro.A with other medieval texts on chiromancy¹⁴ one is struck by its

column on fol. 282 of Ead was intended for the hands. Hands with the same rubrics accompany tracts on palmistry other than chiro.A (e.g. the text in Paris BN 1215; Thorndike, as in n. 5, p. 678), which suggests that the tradition of the illustrations should be considered separately from that of the texts.

¹⁴ The texts used for purpose of comparison are the following: I Chiro.A2, incipit: 'Tres sunt fideles linee in planicie cyros . . .'; Sloane 323 (Z), fols 191^r–^v. II Chiro.B1, incipit: 'Linee naturales tres sunt in planicie omnis cyros . . .'; Cambridge, Trinity 0.2.5, fols 128^{ra}–130^{rb} (T), *ibid.*, fols 212^r–216^r (U), Schlägl, Stiftsbibliothek 144, fols 46–47 (S), Paris BN nouv.acq.lat. 693(P), fols 96^v–97. This version is attributed to 'Adelardus' in SP (P: 'Sciendum est tamen quod quaedam ars reperta est naturalis a quodam philosopho Eadmundo qui antea fuerat Saracenus et vocabatur Maneanus, sed transtulit hanc artem Magister Adulwardus de Greco in Latinum'; S: '... et reperta a philosopho qui Saracenus vocatus est et est translata ad nostram linguam per Magistrum Adelardum'). If a connection can be made with Adelard of Bath (c. 1080–1152) this would place this chiromancy earlier than chiro.A and the references in Gundissalinus and John of Salisbury. However, the attributions sound manufactured, Adelard never translated from Greek, and in discussing why the fingers are of unequal length and the palm is concave in his *Quaestiones naturales* (ed. Müller, pp. 40–41) Adelard shows no evidence of being interested in palmistry. Nevertheless the attributions must have been made whilst the name of the translator Adelard was still fresh in people's minds; i.e. in the twelfth century rather than the fourteenth. III Chiro.B2, an abbreviated and edited version of chiro.B1, printed as the first part of *Liber cheiromantiae incerto auctore* with Antiochi Tiberti Doctoris de cheiromantia libri III, Mainz 1541 (incipit: In principio cheiromantie sciendum est . . .) IV Chiro.B3 is the second and longer part of the *Liber cheiromantiae incerto auctore* (incipit: 'Nota de triangulo. Triangulus aequilaterus fidelem . . .') This in turn shares some of its subject-matter with

primitive form. The data are written down stenographically, without elaboration, and with little attempt at explaining terms or ordering the material. Some terms are unproductive in other chiromantic works: e.g. the middle fingers are numbered from the smallest (*Secundus a minimo, tertius a minimo*), the hollow of the palm is called the *fovea* (elsewhere *concavitas*), the blade is the *conus percussiois* (elsewhere *conus ictus*), and the flat part is the *mensa* (elsewhere *tabula*). No sentences seem to be lifted from other known chiromancies. The note form and haphazard arrangement of the material suggest that the author was jotting down common lore, which included some discrepancies (alternative opinions are introduced by *secundum quosdam*), and is close to oral sources.

The appearance of chiro.A in a psalter is surprising. All the other texts on chiromancy mentioned in this article are found in manuscripts of popular science and divination, and are often adjacent to physiognomies.¹⁵ However, a notable feature of chiro.A is its references to matters of interest to the clergy:

39 A cross . . . in another part of the flat part (denotes) confession.

10 If around the foot of the first natural line (a mark) like a 'c' should occur — this is of this sort:  he will be a bishop.

45 If a kind of triangle lies next to it in the flat part  it denotes a prebend.

The only other chiromancy which refers to the Church so directly is the brief additional text appended to chiro.A in Sloane 323 (chiro.A2):

59 When it extends as far as the first finger, he will be a monk.

71 This mark is the sign of a parish income (*presbyterium*).

80 This is a sign of someone being elected or freely blessing.

chiro.D (see below). **V** Chiro.C precedes chiro. A in Bodleian, Ashmole 399 on fol. 60^r (incipit: 'Tres sunt linee naturales omnis chiros . . .') **VI** Chiro. D and **VII** Chiro.E are the texts edited by Pack, as in n. 6 above. All these texts belong to classes I and IV in Craig's classification scheme (see n. 4 above). In the case of all the texts except those edited by Pack the references are to the sentences of my own transcripts.

¹⁵ E.g. Ashmole 399 includes a physiognomy on fols 1–13^r, and the onomancy known as 'The Victorious and the Vanquished' on fol. 59^r; in Cambridge, Trinity 0.2.5 and Sloane 323, the chiromancy follows a physiognomy.

81 This is a sign of someone despising the clergy.

86 This sign is of a blessing; this of a curse.¹⁶

Among the rubrics on the illustrated hands (some of which, as we have seen, correspond to sentences in chiro.A), there are:

2 This cross signifies the sign of the staff (*baculi*: possibly corresponding to chiro.A, 10).

21 This line beside the triangle, if it is quite long, is a sign of a good confession.¹⁷

In other works on palmistry the ecclesiastical relevance appears to be deliberately toned down. Instead of 'a sign of a good confession' we find 'a sign of a good conversion'.¹⁸ At the end of chiro.B3 we read:

If, in the hand of a peasant the sign of a bishopric is found, one should not say that he will become a bishop or a prelate, but that he will have honour according to his estate.¹⁹

Are we justified in seeing an ecclesiastical context for the writing-down of chiro.A?

It is one of those nice coincidences that the only instance of the practice of chiromancy that is known in the twelfth century could be related precisely to Canterbury, and to the year 1157. The context, once again, is John of Salisbury's *Policraticus*. In chastising Thomas Becket for

¹⁶ 60 '... cum extendatur usque ad primum digitum, monachus erit'; 71 'hec figura est signum presbyterii'; 80 'hoc signum est electi vel libenter benedictis'; 81 'hoc signum est alicuius despicientis clerum'; 87 'hoc signum est benedictionis, hoc maledictionis'.

¹⁷ Sloane 2030, fol. 125^r (left hand): 'honorem baculi significat'; *ibid.*: 'hec linea si bene extensa fuerit iuxta triangulum signum est bone confessionis.' Cambridge, Trinity 0.5.6, fol. 129^r adds, to describe marks below each of the fingers: 'signum clementie, signum fortuniorum, signum religionis, signum bone confessionis.'

¹⁸ Chiro. B3, 33 'Si crucem habuerit et apparuerit, vel sint lineae transfigentes se ad modum crucis, bonum finem et bonam conversationem significat'; cf. chiro.D (ed. Pack, p. 215): 'angulus ille obtusus malam conversationem et indiscretionem significat'.

¹⁹ 19 'Si in manu rustici inveniatur signum praelationis, non est dicendum quod fiet episcopus vel praelatus, sed quod habebit honorem secundum statum suum'; cf. chiro.D (ed. Pack, p. 220): 'O. in medio dicti montis [*i.e.*, the 'hill' of the forefinger] nobilitatem persone et generis, et quod ad magnum statum venturus est; ostendit autem in clerico quasi praelationem magnam, et si hec figura in laico sit, significat magnam administrationem'; cf. D. Price, *An Old Palmistry*, Cambridge 1953, p. 17, section 12.

believing in soothsayers John claims that the future Archbishop of Canterbury consulted a chiromancer before setting out on an expedition against the inhabitants of North Wales.²⁰

²⁰ *Poliraticus* II.27 (ed. C. C. J. Webb, 1.143): 'Chiromantici quoque vera quae in rugis manuum latent se nosse gloriantur. Quorum errorem, quia ratione non nititur, non necessae est rationibus impugnare, licet eo ipso illos expugnet ratio quod deficiunt ratione . . . Cum adversus Nivicollinos Britones regia esset expeditio producenda, in quo te consultus aruspex praemonuit? . . . Item chiromanticus adhibitus et consultus quid contulit?'

Webb, the editor of *Poliraticus*, suggests that this was the expedition that Henry II embarked on in 1157. Could Becket's chiromancer have been reading in Ead that '46 If from the middle of the second finger to the table a strong rod passes through, it indicates as many captures as rods', or '44 If another line descends from it towards the index finger, it shows that he will die in foreign parts'?

APPENDIX

The Chiromancy in Cambridge, Trinity College, MS R.17.1, fol. 282^r (Ead)

I have tried to provide a faithful transcription from Ead, occasionally relegating to a footnote an obviously incorrect reading. Readings from the other MSS (listed above p. 190) are given only when they serve to clarify what may be a misreading in Ead, or when they offer an interesting alternative. Editorial additions are placed in pointed brackets, deletions in square. The scribe is inconsistent in representing classical *ae*, writing both letters on one occasion (28 *inuncturae*), but otherwise varying between *e* with cedilla and *e* without cedilla. I have rendered all *e*-cedillas as *ae*.

1 Lineae naturales .iii. sunt in planitie omnis chyros. 2 A pede igitur superioris lineae rimula directa versus mediam, et ab illa alia obliquata versus eandem, triangulum facit, et superior linea trianguli vitam pro quantitate sui metitur. 3 Si vero ipsi obliquata inhereat extra ∇ apertum, furti naturaliter argumentum est. 4 Si strictum anguli vacuum fuerit, honestae mortis signum est. 5 Si vero ante finem anguli extraverso rimula transierit, et ab illa usque ad finem alia dirigatur, armis mori ostendit. 6 Sed si transversam finiderit, et finem transierit, aqua vel igne mortem venturam denuntiat: versus finem longior, aqua; superius, igne. 7 Si in latitudine trianguli hoc signum fuerit P .p. «virgo est BSA». Preter has si rimule eam variaverint pro modo findendi significant: si parvae, animae instabilitatem; si magne, loci mutationem. 8 Si iuxta lineam vitae, a pede superioris naturalis, alia dirigatur equalis ipsi, signum est matrimonii; si inequalis, adulterii. 9 Et si aliquam istarum non pervenientem ad mediam

1 There are three natural lines in the palm of every hand. 2 From the foot of the higher line a crease directed towards the middle (line) and from * that (middle line) another crease running at an angle towards it, make a triangle, and the higher line of the triangle measures life according to its length. 3 But if an open part sticks to the oblique line outside the triangle, it is naturally evidence of theft. 4 If the narrow end of the angle is empty, it is a sign of an honourable death. 5 But if, before the point of the angle a crease passes across it, and another crease leads from that crease up to the point, it indicates death in battle. 6 But if it cuts the transverse line and passes to the point, it announces that death will come from water or fire; longer towards the point, by water, above (the point), by fire. 7 If, in the breadth of the triangle this sign occurs: P she is a virgin. Aside from these, if creases disturb the broad side, they have a significance according to the way they cut (the broad side): if they are small (they indicate) instability of the soul; if they are large, a change of location. 8 If, beside the life line, from the foot of the higher natural line, another line stretches out equal to it, that is a sign of matrimony; if it is unequal, of adultery. 9 And if a crease comes from the middle natural line and touches at their head any of those lines which do not

naturalem rimula ex media naturali veniens in capite tetigerit, suspendetur. **10** Si circa pedem naturalis prime quasi .c. fuerit huiusmodi ☿ episcopus erit. **11** Si iuxta ipsam alia extensa in summitate sui versus foveam rimula[m i]tale[m] ♄ habuerit, rex. **12** Si ab illa rimulae procedentes inferius respiciant, divicias nuntiant. **13** Si iuxta pedem ipsi quasi ☿ o.c. adhereant, supercolorum (fratercolorum vel testiculorum *B*) amissio. **14** Si .iii. virge *BAS* ipsi in capitibus suis afigantur, et una virgula eas per medium findat, ☿ lepram. **15** Si eidem vel ei qui triangulum facit talis curvatura apponatur, eam quam super habuerit habere certificat. **16** Si a pede prime naturalis vel ab alia pede veniente rimula procedens versus conum exierit, peregre ibit. **17** Si prima naturalis a sui medietate versus finem (pede *B*) rubuerit, capitis dolorem. **18** Si a sui medietate versus finem rubuerit, colli dolorem pandit. **19** Linea vitae ab illa procedens si in principio (sui *BAS*) similis extiterit [sui], cordis dolorem significat. **20** Ultima linea naturalis in fine sui talis, notat ventris dolorem. **21** Si in fovea chyros quasi duo ☿ connexa fuerint, in duello vel in bello hominem interficiet. **22** Si montem manus rimula versus pollicem tendens fortiter funderit, consanguinitatis venus est, vel secundum quosdam fortis ira. **23** Si mons /fol. 282^{rb}/ plenus est rimulis, ab infirmitatibus (cito *BAS*) evasurum ostendit: si paucis, contrarium, vel, secundum quosdam: si multis, (in *BAS*) pecoribus felicitatem; si non, non. **24** Inter duas iuncturas pollicis in latere montem respiciente, si extraverso multae et magnae rimulae transierint, multam et magnam parentelam ostendit; si paucae et parvae, paucam et parvam. **25** In indice (et invdiam *A*) linea finem respiciens patrem matri, extraverso transiens matrem patri preponit. **26** Si has lineas pollicis parentele indicas (indices *BS*) .ii.^c rimulae fortiter funderint, matris lectum violabit. **27** Post has lineas si in ultima iunctura pollicis subtrus ipsum (ipsam *B*) supra lineam iuncture hec figura ☿ apparuit, matrem vel germanam corruptet. **28** Si hec eadem linea iuncturae fortiter sine interruptione pollicem cinxerit, suspendetur. **29** Hec eadem fidelitatis et infidelitatis index est: si fere cingat, infidelitatis; si non, fidelitatis. **30** Unguis pollicis recurvus per

reach the middle natural line, he will be hanged. **10** If, around the foot of the first natural line, (a mark) like a 'c' should occur — this is of this sort: ☿ — he will be a bishop. **11** If, beside it, another crease extending at its highest end towards the hollow part has such (a figure): ♄ he will be a king. **12** If creases from that line look lower down, they announce riches. **13** If, by its foot as it were two(?) 'o's stick to it, (it signifies) the loss of his testicles or little brothers (*B*). **14** If three rods are fixed (to each other) by their ends, and one little rod cuts them through the middle — ☿ — (it signifies) leprosy. **15** If such a curved shape is next to it or to that which makes the triangle, it asserts that he has that (girl?) which he had before. **16** If a crease runs from the foot of the first natural line or from another foot, towards the 'cone', he will go on a journey. **17** If the first natural line is red from its middle to its foot, (it signifies) a pain in the head. **18** If it is red from its middle to its end, it reveals pain in the neck. **19** When the Life Line proceeds from it, if it is like that in the beginning, (it signifies) pain in the heart. **20** The last natural line like this in its end indicates pain in the belly. **21** If, in the hollow part of the hand there are as it were two 'e's connected together, he will kill a man in a duel or in a battle. **22** If a crease stretching towards the thumb strongly cuts the 'hill' of the hand, it is the pleasure of relationship, or, according to some, vehement anger. **23** If the 'hill' is full of creases, it shows that he will (quickly *B*) escape from illnesses; if it has few, the contrary; or, according to some, if there are many, it bodes good fortune in his flocks; if not, then not. **24** Between the two joints of the thumb on the side facing the 'hill', if many large creases pass transversely, it shows a great and numerous number of kin; if the creases are few and small, the number of kin is small and few. **25** On the index finger a line looking towards its end places the father above the mother; if it passes transversely, it places the mother above the father. **26** If two creases strongly cut these lines of the thumb indicating kin, he will violate his mother's bed. **27** After these lines, if, in the last joint of the thumb underneath it, above the line of the joint, this figure appears: ☿ he will corrupt his mother or sister. **28** If this same line of juncture circles the thumb strongly without interruption, he will be hanged. **29** This same (line) is an indication of faithfulness and unfaithfulness: if it almost circles (the thumb) it indicates unfaithfulness; if not, faithfulness. **30** If the nail of the thumb is uncurved

naturam nummosum innuit. **31** In cono percussionis manus lineae abintus vel converso exeuntes si multe et non implicite fuerint, honestatem;¹ si pauce vel implicite, paucitatem denuntiant. **32** Si in ipso cono hec figura  extra versus dorsum respexerit, patricida vel saltem proximicida et fratricida vel sormicida (sororicida AS). **33** Tali signo quasi sagittata (sagitta AS) ab ipso cono intus acumen suum porrigente , quotquot rimule mediam naturalem dividerint, sive inferiorem tangant sive non, pueros denunciant;² si non, alterius rei note. **34** Rimule eidem naturali adherentes sive supra sive infra recte levem, arcuate et minus apparentes gravem — licet occultam — iram (rem AS) manifestant. **35** Hoc idem est, in superiori divise a medio loco extra[a]. **36** Si in media naturali quasi punctum unum apparuerit, unum oculum amittet; si duo, duos. **37** Si vero supra se in fovea quasi  inceperit, et per ipsam transiens in mensa cornua posuerit, nota quidem est conversio- nis. **38** In quacumque sui parte magis ab ultima destiterit eo tempore vite plus felicitatis ostendit vel portendit. **39** Et si ipsi circa finem sui in ipsa mensa quasi crux .+ . adiaceat, vim notat; domi- nanda (dominanti S) alibi in mensa, confessione «m», vel secundum quosdam luxuriam. **40** Si ultima linea naturalis gradatim versus indicem descenderit, gradatim felicitatem accumulat. **41** Si quasi subito se precipitaverit, subitum bonum amplificat. **42** Si vero sursum tetenderit, contra- rium operatur, nisi alia subus prohibeat. **43** Hec eadem sursum tendens labore proprio degere non negat. **44** Et si ab ipsa, alia versus «indicem A» descenderit  mori in exoticis arguit. **45** Sed si ipsi in mensa quasi triangulus adiaceat  prebendam notat. **46** Si autem a media secundi. [o] ad ipsam fortis virga transeat , in viris (innuit S) tot captiones quot virge; in mulieribus partus hoc idem notat hec figura ; et si intus ad mensam magis quam extra se sparserit, tanto graviorem captionem pronuntiabit. **47** Et si in mensa hoc signum apparuit,³ humani sanguinis

by nature it indicates a moneyed man. **31** In the 'cone' of the blade of the hand lines coming from within — or vice versa — if they are many and not intertwined, announce honourability; if they are few and intertwined, niggardliness. **32** If, in the 'cone' itself, this shape  looks out towards the back, (he will) kill his father, or at least kill a relative or a brother or a sister. **33** Such a sign, as if in the shape of an arrow, stretching from the 'cone' itself within its peak , however many creases divide the middle natural line, whether they touch the lower one or not, announce boy children; if not, they denote the other alternative. **34** Creases attached to the same natural line — whether they are above or below — when straight they reveal an insignificant matter, when arched and less apparent, they reveal a serious — though hidden — matter. **35** It is the same when in the case of the superior (line) the (creases) are divided from the middle point outwards. **36** If, in the middle natural line, a kind of single point appears, he will lose an eye; if two, both (eyes). **37** But if in the hollow part above it a kind of .g. begins (to be formed) and, passing through the line, it places its horns on the flat of the hand, it is a sign of conversion. **38** On whatever side it is more distant from the last line, it shows and portends more happiness at that time of life. **39** And if round about its end in the flat part itself a kind of cross lies next to it, it denotes force; if it dominates in another part of the flat part, (it denotes) confession, or, according to some, profligacy. **40** If the last natural line descends gradually towards the index-finger, he gains in happiness gradually. **41** If it launches itself in a sudden way, it increases a sudden boon. **42** But if it tends in an upward direction, the opposite is the case, unless another line below prevents it. **43** This same line tending upwards does not deny that he will live his life by his own labour. **44** And if from it another line descends towards the index finger  it proves that he will die in foreign parts. **45** But if a kind of triangle lies next to it in the flat part —  — it denotes a prebend. **46** But if from the middle (line) of the second (finger) a strong rod passes through it —  — there are as many captivities as rods; in women this same figure  denotes childbirth; and if it has distributed itself more on the inside of the flat part than on the outside, it will announce a much more serious captivity. **47** And if in the flat part this sign appears,⁸ it proves the thirst (AS) for human

¹ B ends here.

² S adds: Si pauce et parve, pauce et parentum etiam invidiam, non pueros.

³ Sign missing.

⁸ Sign missing.

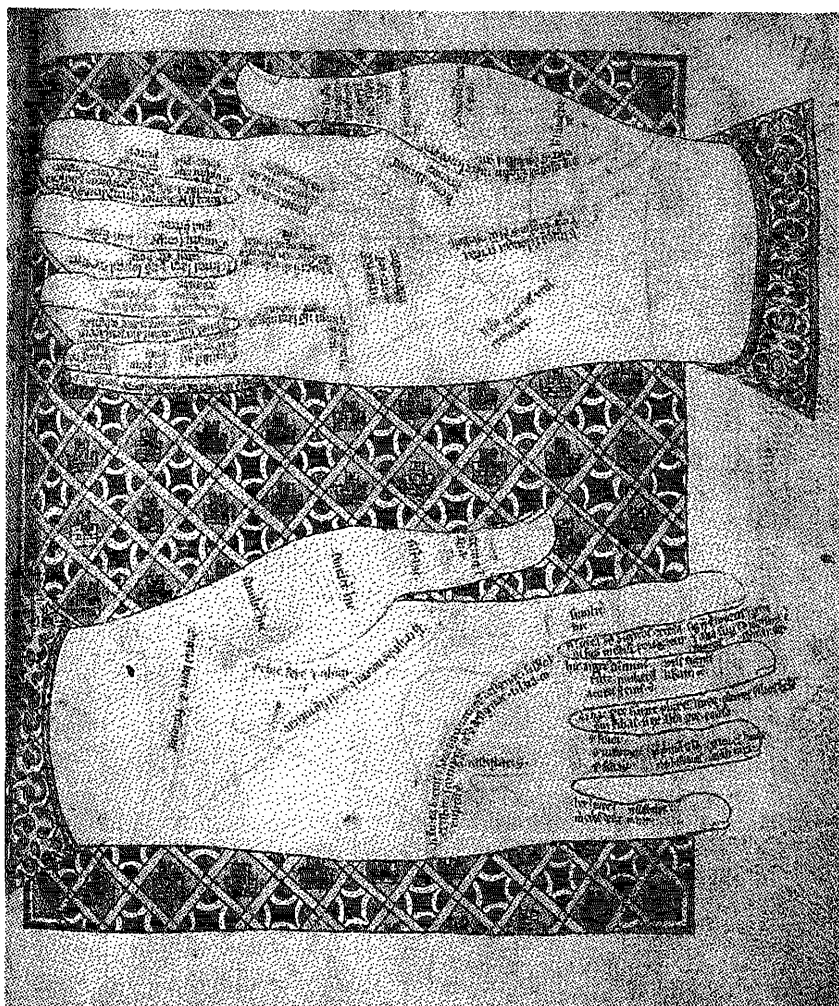
EARLIEST CHIROMANCY IN THE WEST

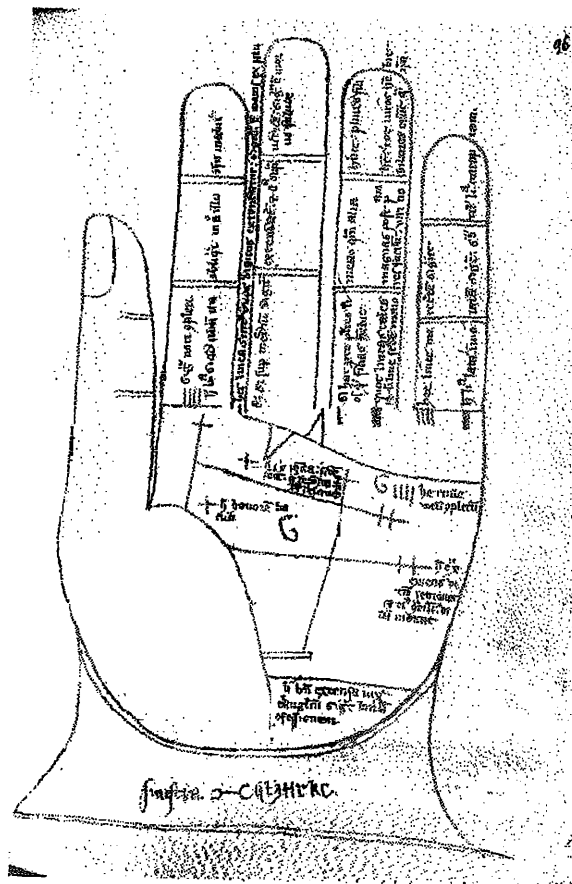
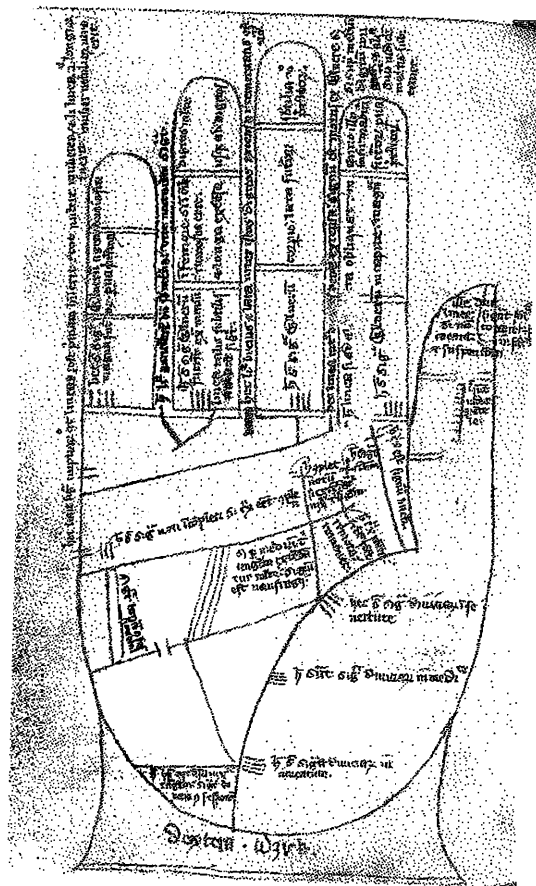
195

factum (sitim AS) probat. 48 Hoc signum in mensa conversum existens , meretricem figurat. 49 Et secundum quosdam si ab ultima linea non directe sed oblique per mensam ad mediam naturalem rimulam se porrexerit, quandoque exhereditabitur tarde, vel non. 50 Secundum loca mense inter ultimam lineam naturalem et quantitatem⁴ auricularis rimulae parve sive extranverso sive ex directo posita, vulnera brachiorum vel manuum significant. 51 Et a fine minimi usque ad finem secundi rimule simili modo dispositae, vulnera pedum vel crurium designant. 52 Et a fine secundi aut minimo usque ad finem tercii rimulae etiam parvae tantum sursum tendentes, vulnera corporis (capitis AS) producant — ubi⁵ autem illi tres digiti palme⁶ coniunguntur. 53 Si rimulae eorum medietatem⁷ dividerint, vulnere in lateribus indices sunt. 54 Rimula ab ultima naturali ad quartum digitum directa pro sui pressura et sui fortione et (ad AS) medium digitum porrectione[m] amplioris ingenii et plurium et profundarum scientiarum nota est. 55 Post istam inter ultimam naturalem et auricularem talis virga exiens comitatus est. 56 Ibidem hoc signum  existens, fatetur proximidatorem. 57 Et hoc signum sursum naturalem respiciens,⁷ mori cybi penuria; circa eadem loca baculus episcopalis , castitatem; hoc signum  alicubi, pedum amissionem. 58 De occultis alias agatur. (*later hand*) etc.

blood. 48 This sign turned into the flat part —  — depicts a prostitute. 49 And, according to some, if a crease extends from the last line — not straight but inclined — through the flat part to the middle natural line, he will be disinherited some time later, or not. 50 Little creases placed transversely or directly along the flat part, between the last natural line and the size (hill?) of the little finger, signify wounds of the arms or hands. 51 Creases in a similar position from the end of the little finger to the end of the second finger indicate wounds of the feet or legs. 52 And from the end of the second or little finger to the end of the third finger creases — even when they are only small — tending upwards produce wounds in the body, where those three fingers are joined to the palm. 53 If the creases divide (cross) their middles, they indicate wounds in the side. 54 A straight crease from the last natural line to the fourth finger, according to its pressure and strength, and by stretching to the middle finger, is a sign of greater intelligence and more and deeper knowledge. 55 Behind this line such a rod going out between the last natural line and the little finger is (a sign) of having company. 56 This sign —  — existing in that place, acknowledges a slayer of his kin. 57 And this sign looking above the natural line⁹ (indicates) death because of lack of food; round about the same spot a bishop's staff —  — indicates chastity; this sign —  — in some place (indicates) the loss of feet. 58 Hidden things are * discussed elsewhere.

⁴ read montem?⁵ nisi Ead.⁶ palicie Ead.⁷ Sign missing.⁹ Sign missing.





II. The Hands; MS Paris, Bibliothèque nationale, n.a.l. 693 (=P), fols. 95v-96r.

Chiromancy: Supplement

The Principal Latin Texts on Chiromancy Extant in the Middle Ages¹

I

The preceding article has established that the Latin literary tradition in chiromancy dates back at least to before c. 1160, and not to the thirteenth century, as claimed in previous scholarship. There are four mutually independent sources that can be identified as standing at the beginning of this Latin tradition:

I The Eadwine Chiromancy (Chiro.A; edited above). This is a list of signs occurring in different parts of the hand, without a general description of the hand or an account of the significance of each of the natural lines.

II The Sloane Chiromancy (Chiro.A2; edited below), occurring only in MS British Library, Sloane 323. This gives a very brief description of the indications of each of the three lines, followed by a list of signs whose indications are not governed by their position on the hand. It is conspicuous for its strange vocabulary ('prodice', 'co(r)ponosius' and 'scyros' for the three natural lines; 'alius' apparently for 'second').

III The Adelard Chiromancy or *Chiromantia parva* (Chiro B1; edited below). This is the first chiromancy that clearly arranges the material according to the natural lines and the triangle formed by the first three natural lines. In two out of the four known manuscript copies it is attributed to Adelard of Bath.

IV The Hands. Diagrams of the right and left hands, with signs and their indications written on them (edited below; see Plate). Although the indications occasionally correspond to those described in the Eadwine Chiromancy, the wording is not the same, and different information is given on the Hands than in any of the three chiromancies listed above.

The Sloane Chiromancy does not seem to have had any influence. Both the Eadwine and the Adelard Chiromancies were added to the Hands, and all three of these sources were used in later chiromancies. These are as follows:

¹ I am very grateful to the help of Dag Nikolaus Hasse, Danielle Jacquart, Annelies Kuyt, Clare Woods and Irene Zwiep.

V The *Ars chiromantiae* attributed to Aristotle, edited by Pack in 1972,² and described in Schmitt and Knox's *Pseudo-Aristoteles Latinus* as *Chiromantia II*,³ is a compilation from the Eadwine Chiromancy, the Adelard Chiromancy and another text or texts. Its compilatory nature is already stated in the title given to the text in MS Bern, Burgerb. 353, fol.1r: 'Incipit ars ciromancie ex multis compilata'. After a preface defending the practice (which may be original) the compiler simply copies passages from other works, which can be distinguished as follows:

- i) The Adelard Chiromancy is the principal work copied. Almost the whole work is included (only passages about women's hands **13, 39, 42–45** are omitted).
- ii) The Eadwine Chiromancy provides the author with many of the indications of the signs in the hand. E.g., end of c.6 = **18**; second half of c.7 = **10–14**; beginning of c.8 = **36**; end of c.10 = **2–3, 5–7**; middle of c.11 = **26–9**.
- iii) A yet unidentified source (unless this is original) provided the compiler with his theory of the 'linea prosperitatis' which 'some books do not mention'.⁴ This is the source for chapters 4 and 9 and possibly chapter 5 in Pack's edition, and appears to have provided the compiler with his favoured terms for the lines: 'linea vitae', 'linea mensalis', 'linea tabularis' (as well as the aforementioned 'linea prosperitatis'). This source may in turn have used the Adelard Chiromancy, since two of the indications from that chiromancy are repeated, once with 'Adelard's' terms (chapter 10), and once with the anonymous source's terms (chapter 5).

The copying of different sources results in some repetition (e.g., the indications for the loss of one or two eyes is taken from the Eadwine Chiromancy in chapter 8, but from the Adelard Chiromancy in chapter 10). It also results in a multiplicity of names for the lines and the parts of the hand. Pack argues that the *Ars chiromantiae* was written after the death of Albertus Magnus (1280); the earliest manuscript dates from the fourteenth century.

VI The John of Seville Chiromancy. This is the chiromancy attributed to Aristotle, edited by Pack in 1969,⁵ and described in Schmitt and Knox's

² R. Pack, *Archives d'histoire doctrinale et littéraire du moyen âge*, 39, 1972, pp. 289–320.

³ C. B. Schmitt and D. Knox, *Pseudo-Aristoteles Latinus: A Guide to Latin Works Falsely Attributed to Aristotle Before 1500*, London, 1985. A list of chiromantic treatises in alphabetical order of their incipits is included as Appendix 2 in L. Thorndike, *History of Magic and Experimental Science*, New York, 6 vols, 1923–58, V (1941), pp. 673–8.

⁴ Ed. R. Pack, 1972, p. 311: 'scias tamen quod de ista linea aliqui libri non faciunt mencionem'.

⁵ R. Pack, *Archives d'histoire doctrinale et littéraire du moyen âge*, 36, 1969, pp. 189–241.

Pseudo-Aristoteles Latinus as *Chiromantia* IV. It is an elaborate scholastic text on chiromancy which includes the information found in the Adelard Chiromancy and the Hands but incorporates it into a well-composed treatise. Two manuscripts, Klagenfurt, Bischöfliche Bibliothek, XXX.d.4 and Bern, Burgerb. 353, name 'Johannes Hispalensis' as the 'causa efficiens' of the text, and a postface in the Klagenfurt manuscript, entitled 'Translatoris verba', states that the work was translated from Arabic by him. But this postface merely reproduces the preface to John of Seville's translation of part of Pseudo-Aristotle's *Secret of Secrets*. The latter work was extremely popular and included a physiognomy. Since chiromancy is the physiognomy of the hand, it may be for this reason that this *Chiromancy* is attributed to Aristotle in three of the six manuscripts known. At the end of the text in the Bern manuscript, and after the postface in the Klagenfurt manuscript, is a passage on the preparation of the hand for inspection and some general points, which is closer to the text of the Adelard Chiromancy than the equivalent passage in the *Ars chiromantiae*. The earliest manuscript of the John of Seville Chiromancy is of the fifteenth century.

Richard Pack states⁶ that the John of Seville Chiromancy is, in turn, the source of VII, an epitome by Rodericus de Maioricis (*Tractatus cyromancie*), which was copied and attributed to 'John the Philosopher' in a manuscript which Lynn Thorndike used for his edition of the work in *Speculum*, 40, 1965, pp. 684–706. There is a great similarity too, between the contents of (1) the John of Seville Chiromancy, (2) VIII, the 'earliest known book of palmistry in English' edited by Derek Price,⁷ and (3) IX, the *Summa chiromantiae*, attributed variously to 'John (Regiomontanus)', 'Richard', and 'Aurelian', which was much-copied, and translated into English by John Metham.⁸ Hardin Craig claims that another text on chiromancy, X, beginning *Secantur* (or *Distinguunt*) *scientiae inter se quemadmodum res de quibus, res aut ex quibus scientiae*..., is an 'amplified treatise of the same general plan and content as the *Summa chiromantiae*.⁹ In the *Summa chiromantiae* the 'mounts' of the fingers are assigned to the planets; this astrological aspect is developed in the treatise beginning *Secantur scientiae*...

That this Latin tradition depended on any earlier Greek or Arabic texts has not yet been demonstrated. The only earlier literary tradition in chiromancy so far discovered in the Mediterranean area is in Hebrew, in which the earliest texts date from the fourth century A.D.¹⁰ The

⁶ Ed. Pack, 1969, p. 200.

⁷ D. J. Price, *An Old Palmistry*, Cambridge, 1953.

⁸ H. Craig, *The Works of John Metham*, London, 1916, p. xxvi.

⁹ Ibid., pp. xxvi–xxvii.

¹⁰ G. Scholem, article 'Chiromancy (Palmistry)' in *Encyclopaedia Judaica*, V, 1971; idem, 'Hakkarat panim we-sidre sarṭuṭin' ('Physiognomy and Chiromancy') [in

attribution of the John of Seville Chiromancy is patently a fabrication. The attribution of the Adelard Chiromancy is more cogent, considering that the treatise stands at the beginning of the Latin chiromantic tradition. However, the style does not match that of Adelard's known translations from Arabic, and there is no evidence that he translated from Greek. All that the attribution might suggest is that this chiromancy originated in England where the earliest manuscripts of the Eadwine Chiromancy and the Hands are also to be found. Unlike in other literary traditions, these Latin chiromantic texts do not seem to have developed from sections on the hand in physiognomic texts.¹¹ The discovery that the earliest forms of Latin chiromantic texts were simple sets of instructions, sometimes merely written on the hands, suggests an oral origin of the literary form, and it might be futile to look for literary precedents in another language.¹²

Since there is so much variation between manuscripts, and little sense of a 'canonical' text, it is difficult to establish a critical text. Many problems of interpretation remain. The editions and translations that follow are provisional. < > indicate editorial addition; [] editorial deletion; () translation of an alternate passage, or translators addition.

Hebrew], in *Sefer Assaf*, 1953, pp. 459–95; and P. Schäfer, *Hekhalot-Studien*, Tübingen, 1988, pp. 84–95. These texts belong to the tradition of Merkavah mysticism and bear little resemblance to the Latin texts discussed here.

¹¹ According to the David Pingree (personal communication) this was the case in Sanskrit.

¹² For a parallel literary development of a technique from simple instructions to a fully-fledged scholastic treatise see the case of rhythmomachy, fully documented in A. Borst, *Das mittelalterliche Zahlenkampfspiel*, Heidelberg, 1986.

The Terminology of the Texts

Eadwine	Sloane	Adelard	<i>Ars</i>	John of S.
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The natural lines (the word 'linea' is assumed where necessary):

Life line	vitae	scyros?	dextra	vitae	vitae/dextra
Head line	media	prodice?	superior	tabularis/ mediana	mediana/ sinistra
Heart line	prima/ superior	co(r)pono- sius?	mensalis	mensalis	ultima/men-- salis/moralis
Fate line	ultima?		inferior	prosperitatis	tertia/ basis trianguli

The fingers ('digitus' is assumed except in the case of 'pollex'):

thumb	pollex		pollex	pollex	pollex
index	quartus/ index		index	index	index
middle	tertius/ medius	longus	medius	medius	medius
ring	secundus	alius		medicus	medicus
little	minimus/ auricularis	primus	auricularis	auricularis	auricularis

The parts of the hand ('manus' is assumed):

hollow	fovea		fovea	concavitas/ concavum
table	mensa	mensa	tabula	
side/ blade	percussio/ ictus	latus	moles/ictus	ictus/acumen/ incisio

The 'mounts' ('m.' = 'mons'):

of fingers				m. digitorum
of thumb	conus	conus	m. pollicis	m. pollicis
of the side	mons/conus percussionis			m. ictus

Note: the 'fate line' and the 'linea prosperitatis' appear to be the same, but are probably different from the 'base of the triangle' which is admitted to be a very faint line in most cases.

II

The Sloane Chiromancy in MS British Library, Sloane 323, fols 19 lr–v.

59 Tres sunt fideles linee in planicie cyros: prodice, coponosius, scyros. **60** Cum extenditur per mediam planiciem aliquis (*MS* alicuius) eorum per manum, cum extendatur usque ad primum digitum monachus erit. **61** Cum ad alium digitum extendatur, in aqua peribit. **62** Cum digito longo tendatur, signum est crudelitatis usque ad maximum. **63** Perpendicularus est quedam linea, que si sit arta et non longa, signum est confessionis interius et amittet unum pedem. **64** *Corponosius* est linea que si sit omni modo brevis, signum est maxime pecunie et nummorum et animalium. **65** Si omnino maxima, signum est amoris iusti a dominis in senectute et non in puericia. **66** Si sit in parte rubea et in parte alterius coloris quem ego bene scio, signum est heretici.

67 Ista figura signum est subitanee mortis in illo <vel> proximo anno et eius pecunie destruentur ante mortem.

68  Ista figura signum est matris avaricie et patris largitas. **69** In quacumque manu reperiatur ista figura, est signum patris largitatis vel avaricie matris [largitatis] et sui ipsius, vel ille vel aliquis fratrum suorum suspendetur. //fol. 19lv/

70  Ista figura est signum diviciarum parentum et ille idem erit sapiens homo.

71  Hec figura est signum presbiterii.

72  Hec figura est signum episcopi.

73  Hoc signum [notat] notat corruptionem vacce vel eque.

74 Hec crux extra manum signum est apulsi. **75** Si sit intra (*MS* infra), rex erit.

76  Hec figura signum est milicie et maxime valentis in illa.

77  Hoc signum est navigii.

Translation

59 There are three dependable lines in the palm of the hand, the *prodice*, the *coponosius* and the *scyros*.¹³ **60** When one of them extends through the hand through the middle of the palm, if it extends as far as the first finger, he will be a monk. **61** If it extends to the second (?) finger, he will die in water. **62** If it extends to the long finger, it is a sign of the greatest possible cruelty. **63** The *perpendicular*¹⁴ is a certain line, which, if it is narrow and not long, is a sign of inner confession, and he will lose one foot. **64** The *corponosius* is a line which, if it is short in every way, is a sign of the greatest quantity of money, coins and animals. **65** If it is of the largest possible extent in every respect, it is a sign of righteous love from masters, in old age rather than in youth. **66** If it is partly red and partly of the other colour which I know well, it is a sign of a heretic.

67 This mark is a sign of sudden death in that <or the> next year and his money will be lost before he dies.

68  This mark is a sign of the miserliness of the mother and the generosity of the father. **69** In whatever hand this mark is found, it is a sign of the generosity of the father or the miserliness of the mother and of himself, or he or one of his brothers will be hung.

70  This mark is a sign of the wealth of his parents, and he will be a wise man.

71  This mark is a sign of a priest's office.

72  This mark is a sign of a bishop.

73  This mark denotes harm to his cow or mare.

74 This cross outside the hand is a sign of someone deposed. **75** If it is within, he will be king.

76  This mark is a sign of service as a soldier and of someone very successful in it.

77  This is a sign of service at sea.

¹³ The origin of these terms is obscure. Two of the terminations of the words are the same as those of two of the lines of the triangle in the Greek chiromancy published by F. Boll, *Catalogus codicum astrologorum graecorum*, VII, Brussels, 1908, pp. 237-44: 'ζωηφόρος, χρονηκή'.

¹⁴ This is probably the same as the *prodice* in **59**.

- 78  Hoc est signum pupilli.
- 79  Hec figura est orphani.
- 80  Hoc signum est electi vel libenter benedicientis.
- 81  Hoc signum est alicuius despicientis clerum.
- 82  Hec figura est signum corruptionis (*MS* corruptione) alicuius divitis.
- 83  Hec figura est signum stulti.
- 84  Hec figura est signum latronis.
- 85  Hec signum est fidelis.
- 86  Hoc est signum false li<n>gwe.
- 87  Hoc signum est benedictionis,
- 88 hoc maledictionis.

III The Adelard Chiromancy

- P* Paris, Bibliothèque nationale, n.a.l. 693, s.xiii, fols 96v–97r
S Schlögl 144, s.xv, fols. 46r–7r
T Cambridge, Trinity 0.2.5, s.xv, fols. 128ra–130rb
U Cambridge, Trinity 0.2.5, s.xvi, fols. 212r–216v.

T includes an extra section after sentence 44, which repeats many of the indications, including those referring to women (headed ‘De mulieribus’).

Mainz. A slightly abbreviated and ‘edited’ version, printed as the first part of the text entitled *Liber cheiromantie incerto authore* in *Antiochi Tiberti Doctoris de cheiromantia libri III*, Mainz, 1541. Sentences 14, 19–20 and 22, the first half of sentence 24, sentence 26, the end of sentence 30 and sentence 37 are omitted. In addition there is extra information concerning women’s indications:

- 78  This is a sign of a ward.
- 79  This is a sign of an orphan.
- 80  This is a sign of someone being elected or freely blessing.
- 81  This is a sign of someone despising the clergy.
- 82  This mark is a sign of the harm of a rich man.
- 83  This mark is the sign of a fool.
- 84  This mark is the sign of a robber.
- 85  This is a mark of a trustworthy man (*or* believer).
- 86  This is the sign of a false tongue.
- 87  This is a sign of blessing.
- 88 This, of a curse.

44: 'vel si in medio talis figura apparuerit  vel sic , ex adulterio concepit, vel si in medio talis figura  vel sic  fuerit, et rubeus angulus, vel si quasi tales figuras 999 masculinum ferre impregnatam significat.'

The manuscripts vary a great deal in their expression, and there are obvious corruptions in all of them. The following edition is based on MS *P* with variants from other manuscripts mentioned only when they are adopted instead of those of *P*. Trivial variants in *P* (such as the confusion between 'e' and 'i') are not mentioned. I am very grateful to Danielle Jacquart for collating the manuscript. Most of the figures in the text are missing.

Chiromantia Parva¹⁵

1 Linee naturales tres¹⁶ sunt in planitie omnis cyros, que¹⁷ triangulum constituunt. Est et alia¹⁸ adiacens que mensalis vocatur eo quod per longitudinem mense cyros extendatur. **2** Linearum quedam sunt naturales tantum, quedam naturales et accidentales et quedam accidentales tantum. **3** Item naturalium quedam recte, quedam oblique, quedam grosse, quedam subtiles, quedam acute, quedam obtuse, quedam rubee et quedam pallide, quedam fisse, quedam continue. Similiter naturalium et accidentalium vel et accidentalium¹⁹ tantum. **4** Naturales tantum dices illas lineas que naturaliter cuiuslibet hominis cyros insunt, ut triangulum et lineam mensalem. **5** Naturales et accidentales tantum dices illas que singulariter secundum naturam subiecto alicui insunt et eiusdem fatum sive de preteritis sive de presentibus sive de futuris accidentaliter denunciant. **6** Accidentales tantum dices illas que ex²⁰ nimio calore sive ex nimio frigore sive ex defectu sanguinis eveniunt, que qualiter dinosci possunt in sequentibus docebimus. Hee etenim in omnibus sunt semper fallaces, sed quoniam secundum naturales tantum et naturales et accidentales tantum verum in accidentibus occurrit iudicium, de illis, ceteris postpositis, primo dicendum est.

7 Igitur a triangulo quem, ut dictum est, tres linee naturales constituunt, incipiamus ostendendo²¹ quid qualiter dispositus habeat designare. **8** Et quoniam triangulorum quidam sunt equilateri, quidam lineas habentes inequales, quidam subtiles, quidam grossas, quidam angulos obtusos, quidam²² acutos, de singulis²³ singillatim dicendum est. **9** Triangulus equilateralis, fidelem, longam vitam predicat, amabilem, famosum. **10** Linea superior in triangulo si ceteris longior apparuerit, furem predicat; si minor, contrarium; si grossior, homicidam;²⁴ si subtilior, lascivium [*sic*]; si rubea, sanguinis effusionem; si pallida, suspensionem. In eadem si gradus fuerit, adulterium in viro significat, in muliere castitatem.

11 Linea dextra in omnibus est contrarium, linea inferior utrisque²⁵ semi-divisa. **12** Si superior angulus acutus fuerit et planus, ingenium acutum et fraudulentum et mendacem significat; si obtusus, parentelam infirmam.

¹⁵ *No title in P. Chiromancia parva S, Ars ciromanciæ U, Chiromantia seu Palmistria T (in lower margin).*

¹⁶ *ST, PU om.*

¹⁷ *S, qui PTU*

¹⁸ *et alia STU] etiam in- P*

¹⁹ *vel et accidentalium S, PTU om.*

²⁰ *STU, P om.*

²¹ *incipiamus ostendendo STU, intendendo P*

²² *quidam...quidam etc. STU] quidem...quidem etc. P*

²³ *STU, angulis P*

²⁴ *T, homicidium U, homicida P*

²⁵ *inferior utrisque SU, in omnibus P*

The Small Chiromancy

1 There are three natural lines on the flat part of each hand; these make up a triangle. There is another next to this which is called the 'table line', because it extends across the length of the table of the hand. **2** Some lines are natural only, some are natural and accidental, some are accidental only. **3** Likewise, of the natural lines, some are straight, others oblique, some thick, others thin, some sharp, others blunt, some red, others pale, some divided, others continuous. The same applies to the natural-and-accidental lines and the accidental-only. **4** You will call 'natural only' those lines which are naturally in the hand of each man, such as the triangular and the table line. **5** You will call 'natural and accidental only' those lines which individually are in some subject by nature, and accidentally reveal his fate, whether in respect to past things, or present or future. **6** We call 'accidental only' those which arise from too much heat or too much cold or from a malfunction of the blood; we will teach how they can be distinguished in what follows. For these are always misleading in all (hands), but since true judgement concerning happenings (?) comes about from the natural-only and the natural-and-accidental-only lines, about these one must speak first, postponing the others.

7 Therefore, let us start from the triangle, which, as has been said, three natural lines constitute, showing what it has to indicate according to its disposition. **8** And since some triangles are equilateral, others have lines of unequal length, some thin (lines), others thick, some (having) obtuse angles, others acute, one must speak about each kind separately. **9** An equilateral triangle predicts a trustworthy man (*or* believer), a long life, and a man capable of being loved, and famous. **10** If the upper line in the triangle appears to be longer than the rest, it predicts a thief; if shorter, the opposite; if thicker, a murderer; if thinner, wantonness; if red, loss of blood; if pale, hanging. If there is a step in it, it indicates adultery in a man, but chastity in a woman.

11 The right line is contrary in every respect, the lower line is divided between both. **12** If the higher angle is acute and flat, it indicates an acute intelligent and a deceitful, lying man; if it is obtuse, an insecure

13 Inferior in dextra ex toto contrarium si in viris, per contrarium in mulieribus inuenies. **14** Tercius angulus si fuerit acutus, vitam metitur et salutem; si obtusus et pallidus, mortem sive infirmitatem. **15** Triangulus si in aliqua parte sui non cohereat,²⁶ stulticiam affirmat aut maxime luxuriosum.

16 Si in triangulo superius talis figura apparuerit , in viro demenciam et mulieris lascivium [*sic*] significat. **17** Si in dextra linea trianguli .o. apparuerit, unum oculum amittet; si duo, duos. **18** Si multe rimule eandem fiderint, regiones multas visurum vel vidisse denunciant. **19** Hec eadem in radice sua si plures lineas ad modum crucis expanserit [*sic*] et unum .o., signum est boni finis et confessionis bone.

20 Superior linea in triangulo si in radice plures lineas ad modum  semiserit, infirmitates multas ante mortem significat. Si aliquam sorori sue emisit, dampnum parentibus infert et mortem alicui. **21** Si in capite trianguli linea ad modum .v. pluribus locis se erexerit²⁷ de gradu in gradum, diviciarum augmentum significat. Si autem se inclinaverit, de malo in peius reducit. **22** In eodem loco si in parte dextra figura talis apparuerit , divicias, dignitates, amicitias cum timore et dolore verissime predicat. Si superius quasi .3. apparuerit, infirmitatem secundum quantitatem sui eodem anno predicat.²⁸

23 Linea mensalis si obliqua fuerit, affirmat triangulum,²⁹ si recta, iusticiam subiecti. Hec eadem si mensam exierit, iracundum et nequam signat. **24** In eadem si gradus fuerit et ascenderit secundum quantitatem³⁰ sui, honores signat, et si ab eadem in capite versus indicem linea recta³¹ ascenderit, si digitum medium fiderit, audaciam et³² probum significat. **25** Si inter duos digitos se³³ extenderit, per vulnera moriturum predicat. **26** Eandem si multe rimule fiderint iuxta radicem, multa vulnera in iuventute; si iuxta capud, multa vulnera³⁴ circa frontem portendit; si grossa, capitalia; si subtilis, in femoribus;³⁵ si rubea, in pectore. **27** Si a linea mensali aliqua³⁶ rimula versus medium se porrexerit, labores multos³⁷ et magnos et angustias portendit. **28** Eadem si subtilis fuerit et

²⁶ *SU*, alia sui partis non coheant *P*

²⁷ se erexerit *SU*] eripitur *T*, extitit *P*

²⁸ Si superius...predicat] *STU om.*

²⁹ triangulum *PSTU*, iniustum *Mainz*

³⁰ *STU*, quantitates *P*

³¹ *STU*, lineam rectam *P*

³² *STU*, *P om.*

³³ duos digitos se *STU*, digitos *P*

³⁴ si iuxta capud, multa vulnera *STU*, *P om.*

³⁵ femoribus *ST*, femoralibus *P*

³⁶ *S*, alia *P*

³⁷ *P add.* et malos

patronage. **13** The lower (line, angle ?) on the right (hand) is completely contrary if in men, but you will find the opposite in women.³⁸ **14** If the third angle is acute, it measures out life and good health; if it is obtuse and pale, death or illness. **15** If the triangle gapes in any part of it, it affirms foolishness or a man who is very licentious.

16 If in the upper part of the triangle such a mark appears , it indicates madness in a man, but wantonness in a woman. **17** If in the right line of the triangle an .o. appears, he will lose one eye; if two, two. **18** If many little fissures cut the same (line), they indicate that he will see or has seen many regions. **19** If this same (line) spreads out into many little lines in its root like a cross, and (there is) one .o., this is a sign of a good end and good confession.

20 If the upper line in the triangle sends out many lines in its root in the likeness of , it indicates many illnesses before death. If it sends a line to its sister (line), it brings harm to his parents and death to someone. **21** If in the head of the triangle, the line raises itself from step to step in the likeness of , in many places, it predicts the increase of riches. But if it sinks, it brings him down from bad to worse. **22** In the same place if on the right side such a mark appears , it predicts most truly riches, honours and friendships with fear and grief. If something like , appears above, it predicts illness in the same year according to its size.

23 If the table line is oblique, it affirms the triangle (*or* an unjust man); if straight, the justice of the subject. If this line goes out of the table, it indicates an angry and wicked man. **24** If there is a step in the same (line) and it ascends, it indicates honours according to its size, and if from the same (line) from its head towards the index finger a straight line goes up, if it cuts the middle finger, it indicates a bold and upright man. **25** If it extends between the two fingers, it predicts that he will die from wounds. **26** If many fissures cut this same line at its root, there are many wounds in his youth; if at its head, it portends many wounds on his forehead; if thick, head-wounds; if thin, in his thighs; if red, in his breast. **27** If a fissure extends from the table line towards the middle, it portends great and many labours and hardships. **28** If it is thin and red, it diminishes

³⁸ For **12–13** the *Mainz* text reads: 'If the higher angle is acute, it indicates life and good health, if it is obtuse or pale, illness and death. **13** It is opposite in the right hand of a man. In women you will find what has been mentioned.'

rubea, minuit³⁹ predicta; si grossa et pallida, adauget. **29** Si pluribus locis intercisa, labores et angustias requie intercidit.⁴⁰

30 Si inter lineam mensalem et auricularem linea apparuerit erecta et subtilis, in viris avariciam et sceleris alicuius conscium significat; si obliqua et grossa, largitatem et famosum. Econtra (?) in mulieribus, si erecta et subtilis, virginitatem; si grossa et obliqua, contrarium. Eandem quotcumque⁴¹ lineae, tot hominum notiores (?)⁴² sub eadem lineatione pretendit. **31** Iuxta eandem a latere manus inter lineam mensalem et auricularem quotcumque lineae apparuerint, totidem designant nupcias, excepta prima linea.⁴³ Si oblique fuerint, peractas; si recte, futuras. **32** Sub eisdem in eodem latere inimicos indicabit. Quotcumque ibi⁴⁴ lineae se coniunxerint,⁴⁵ totidem inimicos presentes portendit. Et si valde erecte et acute fuerint, mortiferos. Si aliqua linea eas transeat, parentes proprios indicat. **33** Hee etiam lineae amicos hoc modo⁴⁶ probant. Si in pluribus locis—videlicet capite, medio et radice—se coadunaverint, et amicis-simos secundum qualitatem sui denunciant.

34 Ex alia parte manus in cono si in inferiori parte quatuor lineae seu plures se extenderint, divicias in puericia secundum quantitatem sui⁴⁷ denunciat; si in medio cono, divicias maximas in iuventute; si iuxta unguem pollicis, plurimas in senectute. **35** Has omnes si plures lineas transierint, infortunium⁴⁸ in ipsis possessionibus secundum quantitatem sui portendunt. Et si rubeae fuerint, parentum invidiam; si pallide, avarum et cupidum.

36 Si in superiori parte pollicis iuxta unguem apparuerit talis figura , leprosum denunciat, odium omni homini inducit, furem, adulterium. **37** Sub eadem si .o. apparuerit, famosum denunciat. Si inferius apparuerit,⁴⁹ suspendetur; si superius, submergetur. **38** Unguis naturaliter curvus nummosum⁵⁰ significat si rubeus fuerit;⁵¹ si planus et pallidus, infortunatum.

39 Hec omnia tam in viris quam in mulieribus sunt considerata, diversis manibus, temporibus ac diebus. **40** Dextra enim viri vere augmentatur,

³⁹ *SU*, inmittit *P*

⁴⁰ *S*, requiem interdicat *P*

⁴¹ *SU*, quaecumque *P*

⁴² *S*, hominum notiones *U*, viventes (?) *P*

⁴³ excepta prima linea *T*, *PSU om.*

⁴⁴ *S*, due *PT*

⁴⁵ *S*, connexerint *P*

⁴⁶ hoc modo *STU*, carissimos *P*

⁴⁷ *S*, *P om.*

⁴⁸ *SU*, infortuna *P*

⁴⁹ famosum ... apparuerit *T*, *SU* ('rubeus' for 'inferius'), *P om.*

⁵⁰ *STU*, damnosum *P*

⁵¹ si rubeus fuerit *SU*, *T* ('famosum' for 'fuerit'), *P om.*

these; if it is thick and pale, it increases them. **29** If it is cut in many places, it intersperses the labours and hardships with rest.⁵²

30 If an straight, thin line appears between the table line and the little finger, it indicates miserliness in men and a man conscious of some crime; if it is oblique and thick, generosity and a famous man. On the contrary, in women if it is straight and thin, virginity; if it is thick and oblique, the opposite. However many lines (cut) the same line, it portends so many more famous men according to the same lineation (?). **31** By this line on the side of the hand between the table line and the little finger, however lines appear, so many marriages they indicate, the first line excepted. If they are oblique, past marriages; if straight, future ones. **32** Under the same lines on the same side it will indicate enemies. However many lines join there, it portends that so many enemies are present. And if they are very sharp and straight, mortal (enemies). If a line passes through them, it will indicate his own parents. **33** These lines prove friends in this way. If they join in many places—i.e., in the head, the middle and the root—they announce very close friends too according to their kind.

34 On the other side of the hand, in the cone (*mount of the thumb*) if on the lower side four or more lines appear and extend, they announce riches in childhood according to their quantity; if in the middle of the cone, greatest riches in youth; if next to the nail of the thumb, most riches in old age. **35** If more lines pass through all these lines, they portend harm to his very possessions according to their number. And if they are red, the envy of his parents; if white, that he is miserly and greedy.

36 If in the upper part of the thumb, next to the nail, a certain figure like this appears , it announces that he is suffering from leprosy, it brings in the hatred to all men, a thief, adultery. **37** If an .o. appears under the same part, it announces a famous man. If it appears lower down, he will be hung; if higher up, he will be drowned. **38** If the nail naturally curves, it announces that he has money if it is red; if it is flat and pale, a misfortune and an unlucky man.

39 All these should be considered as much in men as in women, but in different hands, in different seasons and on different days. **40** For the right hand of the man increases in spring, the left hand brings judgement (?).

⁵² The *Mainz* text reads: 'If it is cut in many places, it indicates labours and griefs, if it is not cut, it shows rest.'

sinistra instantiam inducit. Econverso mulieris sinistra vere augmentatur, dextra instanciam inducit.⁵³ Item tempore estivo dextra viri se magis indicat, tempore yemali sinistra mulieris non fallit. **41** Item diem Solis et diem Iovis vir vendicat; diem Lune et diem Veneris mulier approbat.⁵⁴

42 Sunt etiam alie quedam linee in mulieribus mulierum⁵⁵ secretiora indicantes. Has hoc modo invenies. **43** Inspice triangulum, si in eo quasi multa foramina fuerint et rubedo inserta pregnantem indicabit. **44** Si in medio talis figura apparuerit , ex adulterio concepit. In eodem triangulo in parte inferiori si planus fuerit angulus et rubeus, masculo impregnatum significat. **45** Si figuram quasi .y. inveneris, feminam, si se inclinaverit ad angulum; et quotcumque tales figure se similiter inclinaverint, totidem filiabus impregnatum indicabit. **46** Item de filiis si recte fuerint figure.

47 Cum ergo volueris per hanc artem operari, dies predictos observa et manum querentis tali modo iudicabis. **48** In primis aqua calida manum diligenter abluas donec cutis contrahatur. Deinde sicca et⁵⁶ manu tua frica eam diu et secundum lineas satis apparentes et colores ut predictum est iudicabis.⁵⁷ **49** Lineas quas videris⁵⁸ discoherentes et subtiles, accidentales esse scias; has pretermittas⁵⁹ ne falsum incurras.

P adds: **50** Extitit in Britannia quidam religiosus anachorita cui Deus sua gratia viris et mulieribus angelo nuntiante revelavit hec signa profectura. **51** Huius namque frater morbo preoccupatus <est>; pro cuius salute Hilaricus (?), vir iste devotus Deo, flexis in terra genibus, extensis in celum manibus, oravit ut ei dominus signum vite vel mortis fratris sui certe patefecerit. **52** Dominus igitur eius adimplevit votum. Surgens namque ab oratione (?) huiusmodi staturam marmoream coram se prospexit in qua maris dextram, mulieris sinistram sculptam discernit, in quibus signa predicta indicata sunt. **53** Sciendum est tamen quod quedam ars reperta est naturalis a quodam philosopho Eadmundo qui ante fuerat Saracenus et vocabatur Maneanus, sed transtulit hunc [*sic*] artem Magister Adulwardus de greco in latinum.

S adds: **50** Et subdit quod in Britannia hec ars sit cuidam religiosissimo anachorite revelata et hec quoad illas lineas accidentales quare predicebat nota (?) vera. **53** Sed quoad lineas naturales est scientia naturalis. Et reperta a philosopho quodam qui Saracenus vocatus est et est translata ad nostram lingvam per Magistrum Adelardum. Explicit Chiromantia Minor.

T adds designs of the hands. These precede the text in P where they are entitled 'dextera viri' and 'sinistra mulieris' (with viri and mulieris partly in Greek letters, partly in code).

⁵³ Econverso... inducit *SU*] contra in mulieribus *T*, *P om*.

⁵⁴ *STU*, appellat *P*

⁵⁵ *U*, mulieris *T*, *SP om*.

⁵⁶ sicca et *U*, siccata *PS*

⁵⁷ *STU*, indicabit *P*

⁵⁸ *STU*, videre *P*

⁵⁹ *STU*, preteritas *P*

On the other hand the left hand of a woman increases in spring, the right hand brings judgement (?). In summertime the right hand of the man shows itself more clearly, in wintertime the left hand of the woman does not fail. **41** The man claims Sunday and Thursday; the woman approves Monday and Friday.

42 There are also certain other lines in women indicating the more secret matters of women. You will find them in this way. **43** Look at the triangle, and if there are many holes, as it were, and a red colour is introduced, then it will indicate that she is pregnant. **44** If in the middle there is a figure like , she has conceived adulterously. If in the same triangle, on the lower side, there is a plain, red angle, it indicates she is pregnant with a male child. **45** If you find a mark like a .y., a female, if it inclines towards the angle; and however many such marks incline in a similar way, it will indicate that she is pregnant with so many daughters. **46** The same is indicated in respect to sons, if the marks are straight.

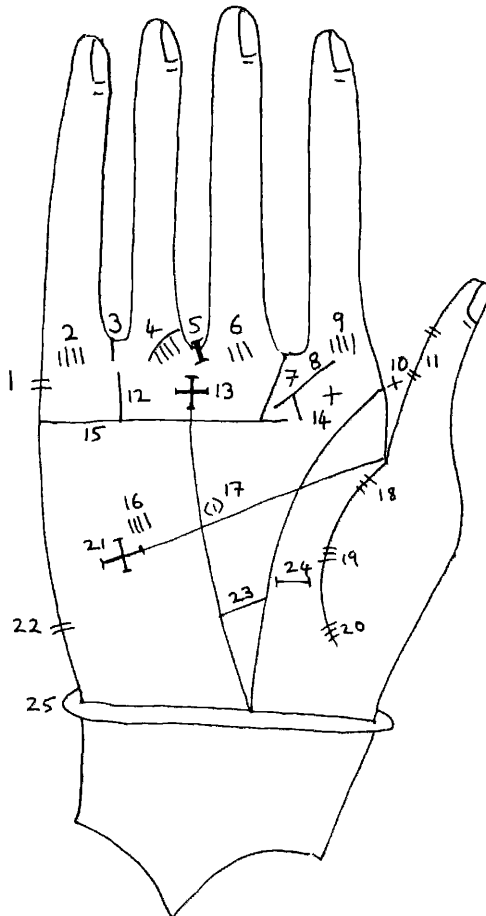
47 When you wish to practise this art, observe the aforementioned days and you will judge the hand of the client in such a way. **48** First you should carefully wash the hand with hot water until the skin contracts. Then dry it and rub it for some time with your hand, and you will judge according to the lines which are sufficiently distinct and their colours, as has been explained. **49** But you should know that the non-cohering and thin lines that you notice are accidental; you should disregard these lest you fall into falsehood.

P adds: **50** There was in Britain a certain religious anchorite to whom God in His grace revealed through the message of an angel these signs which would benefit men and women. **51** For his brother was burdened by an illness. To save him Hilaricus (?), that man, devoted to God, having bent his knees to the ground and extended his hands to heaven, prayed that the Lord might reveal to him a clear sign of the recovery or death of his brother. **52** The Lord therefore fulfilled his prayer. For rising from his prayer, he saw in front of him a marble statue of this kind on which he noticed that a right hand of a man and a left hand of a woman were sculpted in which the aforementioned signs were indicated. **53** One should know, however, that a certain natural art was discovered by a certain philosopher, Eadmund, who was previously a Saracen and was called Manean, but Master Adelard translated this art from Greek into Latin.

S adds: **50** And he adds that this art was revealed in Britain to a certain very religious anchorite, and this, in respect to those accidental lines by which he made predictions is a true revelation (?), **53** but in respect to the natural lines it is a natural science. This was discovered by a certain philosopher called 'Saracenus' and is translated into our language by Master Adelard. The Lesser Chiromancy ends.

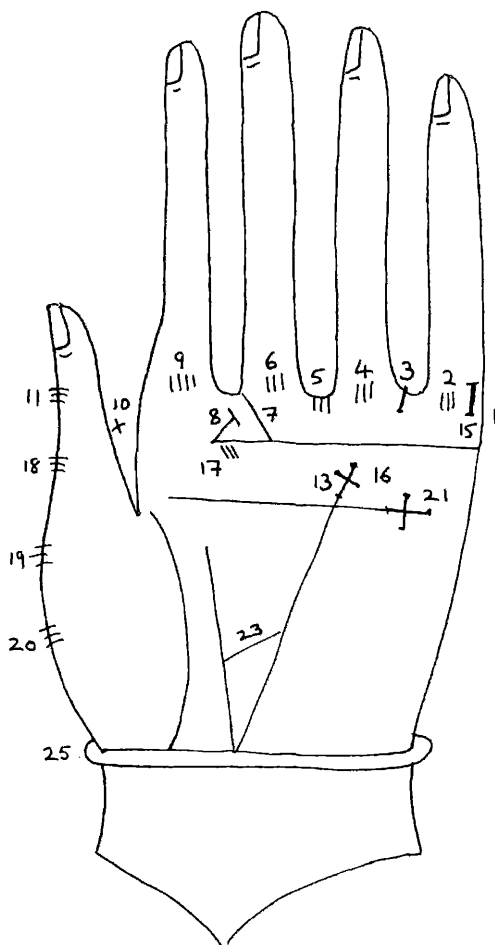
IV. The Hands

The Hands. Similar rubrics are found in the same positions on the depictions of the hands which accompany (1) the Eadwine Chiromancy in MSS Oxford, Bodleian, Ashmole 399, fol. 17r (*B*), British Library, Sloane 2030, fol. 126r (*S*), and *ibid.* Sloane 323, fol. 188r (*Z*), (2) the

Figure I. The Left Hand (*S*)

Adelard Chiromancy in MSS Paris, BN, n.a.l. 693, fols 95v and 96r (*P*), Trinity, O.2.5, 129v–30r (*T*), and Schlägl, Stiftsbibliothek 144, and the chiromancy of 'John the Philosopher' published by Thorndike (Paris, BN, lat. 1215). The following texts are from *B* and *S* (*B*'s readings are given first). The position of the predictions on the hand can be found by consulting the Plates, and Figures I and II below.

Figure II. The Right Hand (*S*)



Dextra viri⁶⁰

1 [Linee] nupciarum. Quot lineas tales post primam habuerit, tot uxoribus nubet; et si longiores, nobiliores.

1 Hec sunt lineae nupciarum. Quot tales lineas post primam habuerit, tot feminas habebit; si fuerint longiores post nobiliores erunt.

2 Signa vulnerum genibus infra—magna futurorum, parva preteritorum.

2 Hec sunt signa vulnerum corporis infra genua—magna futurorum, parva preteritorum.

3 Hec linea subintrans auricularem vite mutacionem designat (*BS the same*).⁶¹

4 Signa vulnerum in femore—si magna futurum, parva preteritorum.

4 Hec sunt signa vulnerum in femore—maxima futurorum, parva preteritorum.

5 Hec linea lata non longa, temeritatis est nota.

5 Hec linea lata non longa inter digitos extensa temeritatis est nota.

6 Signa vulnerum in corpore—lata futurorum, parva preteritorum.

6 Hec sunt signa vulnerum corporis—lata futurorum, subtilia preteritorum.

7 Hec linea si inter digitos extenditur, signum est mortis ex vulnere. Si super digitum extendatur, et alia linea super indicem, signum est mortis subitanee.

7 Hec linea si inter digitos istos bene extenditur, signum est mortis ex vulnere. Et si super medium digitum extendatur et alia super indicem, signum est subitanee mortis.

8 Hec linea si ad aliam obliquatur in illo anno infirmabitur (*BS the same*).

9 Signa vulnerum capitis—magna futurorum, parva preteritorum.

⁶⁰ *P*, masculi *T*.

⁶¹ Cf. *T*: 'Hec linea si fuerit extensa inter digitos paupertatem signat'.

The Right Hand, of the Man

1 These are the lines of marriage. However many such lines he has after the first, so many wives he will have. If the lines are longer, the wives afterwards will be more noble (*B*: the longer, the nobler) (cf. Adelard Chiromancy **31**).

2 These are the signs of wounds on the body below the knees—large ones indicate future (wounds), small ones, past (cf. Eadwine Chiromancy **51**).

3 These lines entering the little finger indicate a change in life.

4 These are the signs of wounds in the thigh—large (*S*: very large) ones indicate future (wounds), small ones, past.

5 This line, when it is broad and not long (*S adds*: extending between the fingers), is an indication of rashness.

6 These are the signs of wounds in the body—broad ones indicate future (wounds), thin (*B*: small) ones, past (cf. Eadwine Chiromancy **52**).

7 If this line extends (*S adds*: considerably) between those fingers, it is a sign of death from a wound. If it extends over the middle (*B omits*) finger, and another line over the index finger, it is a sign of sudden death.

8 If this line is oblique to another, he will be ill in that year.

9 These are the signs of wounds in the head—large ones indicate future (wounds), small ones, past.

9 Hec sunt signa vulnerum capitis—magna futurorum, parva preteritorum.

10 *B omits.*

10 Hec crux dignitatem baculi significat.

11 Hee sunt signa fidelitatis et infidelitatis, que si co<h>erent, infidelitatem et suspensionem significant.

11 Hee sunt signa fidelitatis et infidelitatis, que si coeunt, infidelitatem et suspensionem significant.

12 Hec linea nec alicubi incipiens, nec alicubi finiens, signum est honoris vel terminalis puncti.

12 Hec linea si alicubi sit incipiens sive exiens, signum subiti honoris est vel terminalis puncti.

13 Hec crux fidem ponit et cum fide recedit.

13 Hec crux fidem ponit et de re recedit.⁶²

14 Hec crux est alicuius literati.

14 Hec crux est si<gnum> alicuius literati.

15 Hec linea non lata usque ad digitum audaciam s(ignificat).

15 Hec linea non lata set longa audaciam denotat usque ad digitum extensa.

16 Hec significant votum incompletum, sed si crux findit, votum completum.

17 Hec sunt signa voti completi (*BS the same*).

18 Signa diviciarum in senectute.

18 Hec sunt signa diviciarum in senectute.

⁶² Cf. Z: 'Hec crux fidem posita ponit et removenda removet'.

10 This cross signifies the honour of a staff.⁶³

11 These are the signs of faithfulness and unfaithfulness: if they join, they indicate unfaithfulness and hanging (cf. Eadwine Chiromancy **28–9**).

12 If this sign begins or ends in any place (*B*: neither begins nor ends in any place), it is a sign of promotion coming suddenly (*B omits*) or of a terminal point (?).

13 This cross establishes faith and takes away faith when it goes.

14 This cross is a sign of some literate person.

15 If this line is not broad (*S adds*: but long) and extends as far as the finger, it indicates boldness.

16 These (lines) indicate an unfulfilled prayer (*or* vow), but if a cross cuts (them), a fulfilled prayer (*or* vow).

17 These are the signs of a fulfilled prayer (*or* vow).

18 These are the signs of riches in old age.

⁶³ This is presumably a bishop's or abbot's crozier.

19 Signa divicie in medio evo.

19 In medio evo.

20 Hec in iuventute (*BS the same*).

21 Hec crux exiens vitam remordet.

21 Hec crux exiens vitam removet et eius contrarium inducit. Que quanto plus exierit, tanto magis mox excedit.⁶⁴

22 Signa voti incompleti.

22 Hec sunt signa voti completi.

23 Si per medium triangulum multe lineae extenduntur, signum est naufragii.

23 Si per medium triangulum extendit signum est naufragii.

24 Guttam significat (*B omits*).

25 Hec linea si longa extendatur iuxta triangulum signum est bone confessionis.

25 Hec linea bene extensa iuxta triangulum, signum est bone confessionis.

Sinistra mulieris⁶⁵

1 Quot lineas tales post primam habuerit, tot viris desponsabitur. Et si maiores sint secunde quam prime, nobiliores erunt mariti quam ipsa sponsa (*B omits*).

2 Hee lineae innumerabiles meretricem designant.

2 Lineae hee meretricem significant.

⁶⁴ Cf. *T*: 'Que quanto plus extenditur, tanto magis mox accedit'.

⁶⁵ *P*, femelle *T*.

19 These are the signs of riches in middle age.

20 These, in youth. (18–20 = Adelard Chiromancy 34).

21 This cross coming to an end, removes life, and its opposite brings (life). The more it goes away, the sooner (life) departs.

22 These are signs of a fulfilled (*B*: unfulfilled) prayer (*or* vow).

23 If many lines extend (*S*: it extends) through the middle of the triangle it is sign of shipwreck.

24. It signifies a drop of water (?).⁶⁶

25 If this line is well (*B*: long) extended along the side of the triangle, it is a sign of a good confession.

The Left Hand, of the Woman

(Only those rubrics with different significances from those of the Man are translated).

1 However many such lines she has after the first, so many husbands will she marry. If the second lines are bigger than the first, the husbands will be more noble than the wife herself.⁶⁷

2 These lines (if they are without number) indicate a prostitute.

⁶⁶ The same word occurs in the John of Seville Chiromancy, I.18 (ed. Pack, 1969, p. 221): 'et si ab ea multe procedant linee versus finem, guttam portendunt illum habiturum ante mortem'.

⁶⁷ This legend is written between the ring and the little fingers in *S* and no mark is shown on the hand.

3 Filiarum, quia si hac parte plures lineas quam ex alia habuerit plures natos habebit quam natas, ex alia parte econverso (*B omits*).

4 Signa filiorum. Signa virorum quia post primam si longiores lineae, [si] filiarum nobiliores erunt viri.

4 Filiarum domini. Cum longiores sint nobiliores erunt nati.

5 Si hac parte fuerint plures lineae, plures filios habebit quam filias; si ex altera parte, econverso.

5 Si ex hac parte plures sint, plures filios habebit quam filias.

6 Hic digitus si in minimis signis fuerit, mulierem liberam esse a curis terrenis.

6 Hic digitus immunis a signis significat mulierem esse liberam a cunctis terrenis.

7 Hec linea inter digitos extensa signum est mortis in partu; si super medium extendatur et alia super indicem, signum mortis subitaneae.

7 Hec linea exiens, signum est mortis infantis, id est per infantem, sed si super digitum medium porrigatur et alia super indicem, signum mortis subitaneae.

8 Hec linea, si ad aliam obliquatur, in anno illo infirmabitur (*B omits*).

9 Hec sunt signa vulnerum capitis, magna futurorum, parva preteritorum (*BS the same*).

10 Hec crux honorem baculi significat (*B omits*).

11 Hec signa infidelitatem significant, quae si coeant, infidelitatem et suspensionem (*BS the same*).

13 Hec crux honorem baculi significat

13 Hec crux fidem ponit cum fide recedit.

15 Hec linea brevis et lata virginitatem designat; si subtilis existat, incorrupta esse designat, si lata, corrupta est.

3 Of daughters, because if in this part she has more lines than in (the) other part, she will have more sons than daughters. It is the converse in (the) other part.⁶⁸

4 Signs of sons. Signs of husbands, because if after the first (line) the lines are longer, the husbands of the daughters will be more noble (S: The masters of daughters. When they are longer, they will be more noble by birth).

5 If in this part there are more lines, she will have more sons than daughters. (*B adds*: If on the other side, the converse.)

6 If this finger has no signs on it (*B*: if it is with very small signs), it indicates that the wife is free from earthly cares (S: from all earthly things).

7 If this line extends (*B adds*: between the fingers), it is a sign of death of a child—i.e., because of a child (*B*: in childbirth). If it extends over the middle finger, and another (line) over the index finger, it is a sign of sudden death.

8 (*The same*).

9–11, 13 (*The same*).

15 This line, short and broad, indicates virginity; if it is thin, it indicates that she is incorrupt, if it is broad, she is corrupted.

⁶⁸ The wording is clearer in *Ars chiromantiae* 7 (ed. Pack, 1972, p. 315): 'item si sub medio digito plures lineas quam in alia parte habuerit, plures filios quam filias habebit'. The John of Seville Chiromancy describes the indications in this way (I.19; ed. Pack, 1969, p. 222): 'ciromantici dicunt quod mulier habens plures lineas inter medium et medicum quam inter medicum et auricularem habilior est ad generandum filios quam filias et e contrario, lineae enim inter medium et medicum filios significant, inter medicum et auricularem, filias.'

15 Hec linea si lata fuerit in violentam (?) significat esse; si subtilis, corruptam.⁶⁹

16 Hec significant votum completum (*B omits*).

17 Signum voti impleti (*B omits*).

18 Similiter hic.

18 Hec sunt signa diviciarum.

19 Similiter hic.

19 Hec sunt signa in medio evo.

20 Similiter hic.

20 Hec in iuventute.

21 Hec crux exiens vitam removet et eius contrarium inducit, scilicet mortem (*B omits*).⁷⁰

23 Hec linea si per medium triangulum extenditur, signum est naufragii (*B omits*).

25 Signa bone confessionis.

25 Hec linea si bene extensa fuerit iuxta triangulum, signum est bone confessionis.

⁶⁹ Cf. *T*: 'Hec linea si fuerit lata, significat involatam'.

⁷⁰ Cf. *T*: 'Hec crux exiens vitam removet. Quanto hec crux extendit, tanto mors propinquior erit'.

16 These signify a fulfilled prayer (*or* vow).

17–21 (*The same*).

23(*The same*).

25 (*The same*).

THE EADWINE PSALTER AND THE WESTERN TRADITION OF THE ONOMANCY IN PSEUDO-ARISTOTLE'S *SECRET OF SECRETS*

This article addresses the problem of how a certain form of divination from the numerical value of names appears both in a mid-twelfth century English psalter and in the Arabic—but not the Latin—versions of Pseudo-Aristotle's *Secret of Secrets*, and investigates the possibility of a Western tradition for this form of divination, independent of the *Secret of Secrets*.¹

One of the best-known surviving medieval psalters is manuscript Cambridge, Trinity College, R.17.1. This is commonly referred to as either the 'Canterbury Psalter', in that it contains a detailed plan of the water-works of Christchurch Cathedral Priory in Canterbury, and was written there in ca. 1160, or the 'Eadwine Psalter', in that a certain Eadwine—whose full-length portrait adorns the penultimate folio—appears to have been responsible for the production of the manuscript. The manuscript was reproduced in facsimile by Montague Rhodes James in 1935² and is currently being subjected to a detailed analysis by several * scholars, under the direction of Margaret Gibson. While much attention has been paid to the illustrations, the water-works plan and the Anglo-Saxon and Norman-French glosses, two prognostic texts, written at the end of the manuscript at the same time as the rest of the manuscript,

(1) I am very grateful to Margaret Gibson for drawing my attention to this ms.; to Linda Voigts for detailed criticism of my paper, for checking the transcriptions of early English texts, and for allowing me to see in advance an article of hers; and to Will Ryan for advice on the Russian onomancy.

(2) M. R. JAMES, *The Canterbury Psalter*, London, 1935.

have passed almost unnoticed.³ The first of these (on fol. 282r), which I have discussed elsewhere,⁴ is the earliest text (by about hundred years) of any Latin work on palmistry that we possess, and is contemporary with the earliest mentions of palmistry in Western Medieval literature, one of which, by a nice coincidence, involves Thomas Becket, Canterbury, and the year 1157. The second prognostic text (fol. 282v) consists of the tables for a kind of prognostication based on the letters of the client's name. There are four tables:

- A. The planetary weekdays and their numerical equivalents.
- B. The victorious and vanquished numbers.
- C. The determination of the divisor according to the topic ('For the sick and for combat divide by 9; for husbands and wives, by 7')
- D. The letters of the alphabet and their numerical equivalents.⁵

From related versions it is possible to work out the instructions which are tacitly understood in these tables:

To determine which of two combatants will win you take the name of each of them separately. You find the numerical equivalents of the letters from table D and add them up. You divide the totals by nine and note the remainder, which will be a number from 1 to 9 (a remainder of 0 counts as 9). Then you consult table B and find out which number conquers which, and this will indicate the victor.

In the case of a sick man you determine his remainder as before, and you compare that with the remainder of the number given to the planet on whose weekday the person fell sick.

To find out which one of a married couple will survive the other you add up the numerical values of their names as before, but instead of dividing by nine, you divide by seven,⁶ and then consult table B.

Onomantic texts are found in English liturgical books from an early date. Two examples are the Leofric missal, which includes such a text amongst a group of additions made ca. 970 at Glastonbury,⁷ and a

(3) In spite of the detailed description of these two items in M. R. JAMES, *The Western MSS in the Library of Trinity College, Cambridge*, Cambridge, 1901, II, pp. 406-8, Lynn THORNDIKE and Pearl KIBRE, *A Catalogue of Mediaeval Scientific Writings in Latin*, London, 1963, make no mention of this manuscript; brief mention of the texts is made by D. VERFAILLIE-MARKEY in *Le dernier cahier du Psautier d'Eadwine (Ms. Cambridge, Trinity College, R.17.1)*, *Scriptorium*, 37 (1983), pp. 245-58.

(4) *The Earliest Chiromancy in the West*, *Journal of the Warburg and Courtauld Institutes*, 50 (1987), pp. 189-95.

(5) A transcription of the full text appears in Appendix 2, Text B, below.

(6) Note that in judicial astrology the seventh astrological 'place' is the 'place' of marriage.

(7) Oxford, Bodleian, Bodl. 579, see C. SINGER, *Early English Magic and Medicine*, in his *From Magic to Science*, London, 1928, pp. 144-6, and the article cited in the following note.

Psalter written at Winchester ca. 1050.⁸ However, these early versions belong to the Greek-Latin tradition of *The Letter of Petosiris to Nechepso* and the closely related 'Sphere of Life and Death' (or 'Sphere of Pythagoras'): the name of only one client is involved; the sum of the numerical equivalents of the name is divided by 30 (or 28 or 29), and the remainder is found in one of six compartments within a rectangle or sphere, which are headed 'great life, medium life, small life, great death, medium death, small death' respectively.⁹

The tables in the Eadwine Psalter are interesting in that they belong to a different tradition of onomancy which we may call 'The Victorious and the Vanquished'. The essential element of this form of divination is a set of nine tables listing all the possible combinations in pairs of the first nine digits, and indicating for each pair which number 'conquers' which (i.e. table B in the Eadwine Psalter). This is found in Greek, and especially in Oriental sources, but has not up to now been recognized in Latin or the European vernaculars before the mid-thirteenth century. Let us unravel the evidence that the Eadwine Psalter provides for the Western tradition of this form of onomancy.

The next earliest manuscript known to me which contains similar material is a volume illustrated by Matthew Paris (d. 1259) of St Albans: Oxford, Bodleian, Ashmole 304.¹⁰ Here the table of the victorious and vanquished numbers is the first item and is illustrated by a graphic depiction of one soldier injuring another. This text has been copied into Bodleian, Digby 46 (s.xiv^{3/4})¹¹ and appears in textually identical form in later manuscripts written in England, British Library, Additional 15236 (s.xiii^{ex}) and Arundel 339 (s.xiv), Oxford, Bodleian, Ashmole 399 (s.xiii^{ex}) and British Library, Sloane 3554 (s.xv).

Digby 46 adds prose instructions on the use of the table, which are repeated in Sloane 3554.¹² Sloane 3554 adds another set of instructions¹³

(8) London, British Library, Cotton Tiberius C VI. This ms. is discussed by Linda VOIGTS in *The Latin Verse and Middle English Prose Texts on the Sphere of Life and Death in Harley 3719*, *Chaucer Review*, 21 (1986), pp. 291-305, see n. 21.

(9) *The Letter of Petosiris to Nechepso* (printed PL 90: 963-6), which was incorporated into the Latin *Liber Alchandreï* by the end of the tenth century, derives from a Greek text (ed. E. RIESS, *Nechepsonis et Petosiridis fragmenta magica*, *Philologus*, 6. Supplementband (Göttingen, 1892), pp. 325-94 [see pp. 383-5]). For the 'Sphere of Life and Death' and the 'Sphere of Pythagoras (or Democritus or Apuleius)' see H. SGERIST, *The "Sphere of Life and Death" in Early Mediaeval Manuscripts*, *Bulletin of the History of Medicine*, 11 (1942), pp. 292-303, and VOIGTS, *art. cit.* (n. 8 above).

(10) O. PÄCHT and J. J. G. ALEXANDER, *Illuminated Manuscripts in the Bodleian Library: Oxford, 3, British, Irish and Icelandic Schools*, Oxford, 1973, no. 437.

(11) PÄCHT and ALEXANDER, *op. cit.*, no. 659.

(12) *Incipit*: Argumentum finis huius doctrine talis est...; See pp. 153-67 below for editions of this and the other instructions mentioned in this chapter.

(13) *Incipit*: Summe duo nomina...

and Arundel 339 and Additional 15236 give yet further versions of instructions. Ashmole 399, Arundel 339 and Sloane 3554 spell out the number-letter equivalents which are necessary for the calculation but are missing from the earlier manuscripts. These equivalents are the same as those in table D in the Eadwine Psalter.¹⁴ Moreover Sloane 3554 and Arundel 339 include tables of planet-number equivalents as in table A in the Psalter. These are necessary for the prediction of the outcome of an illness. These sets of instructions match the data in the Eadwine Psalter so closely that I have been able to extract from them my own instructions for the use of the Eadwine tables, given at the beginning of this article.

An earlier manuscript which gives the tables of number-letter (D) and planet-number (A) equivalents, but not the victorious and vanquished numbers, is a codex bound into Bodleian, Digby 67. This codex was written in England at the end of the twelfth or in the very early thirteenth century and includes the *Liber Hermelis Trismegisti de Sex Rerum Principiis*—a pseudepigraphic work which uses English material, including Adelard of Bath's *Quaestiones naturales*.¹⁵ The tables are presented on fol. 78v under the rubric *Sententia Alhandrei mathematici De Nominibus Latinis*. This title might lead us to suppose that the tables come from the *Liber Alchandreï* which has the title *Mathematica Alhandrei Summi Astrologi* in an eleventh-century French manuscript now in the British Library.¹⁶ Onomancy plays an important part in the jejune astrological fortune-telling which forms much of the subject-matter of the *Liber Alchandreï*. In addition to the above-mentioned Latin text of the Letter of Petosiris to Nechepso the *Liber Alchandreï* includes several tables of letter-number equivalents. The Eadwine Psalter letter-number and planet-number equivalents and the table of victorious and vanquished numbers are not found in any of the manuscripts of the *Liber Alchandreï* or its siblings, as far as I know. But in going through these manuscripts one feels that the scent is warm. Internal references in the *Liber Alchandreï* to Alexander Macedo make it clear that the compilation is based on works purportedly written by

(14) See table I for comparisons.

(15) T. SILVERSTEIN, *Liber Hermelis Mercurii Triplicis de VI Rerum Principiis*, *Archives d'histoire doctrinale et littéraire du moyen âge*, 1955, pp. 217-302 (see pp. 240-1).

(16) Additional 17808. The most recent discussion of this text is given by Bernhard BISCHOFF in *Bearbeitung eines arabischen Lehrbuches der Astrologie (vor 1034)*, in his *Anecdota novissima: Texte des vierten bis sechzehnten Jahrhunderts* (Stuttgart, 1984), pp. 183-91. The classic study of the manuscripts is that by A. VAN DE VYVER, *Les plus anciennes Traductions latines médiévales (x^e-xii^e siècles) de Traités d'Astronomie et d'Astrologie, Osiris*, 1 (1936), pp. 658-91 (see pp. 666-84), while the contents of the work and its affiliations are expertly described by J. M. MILLÁS-VALLICROSA in his *Assaig d'història de les idees físiques i matemàtiques a la Catalunya medieval*, Barcelona, 1931, pp. 247-291.

or addressed to Alexander the Great.¹⁷ Similarly, the tables of the *Sententia Alhandrei* in Digby 67 follow a chapter headed *Sententia philosophorum de horis in quibus debent fieri prestigia* which begins: "Ypocras et Nectanebus Philosophus"... (fol. 78r). This is the only mediaeval Latin text I know in which Nectanebus, the magician of the Alexander Romance, is given as an authority. In Arundel 339 we read that Alexander the Great had the table of victorious and vanquished numbers with him wherever he travelled.¹⁸

It is no coincidence that the name Alexander crops up so frequently, for, in the oriental sources in which it occurs, the table is universally described as advice given by Aristotle to Alexander. The best known, and most widely transmitted, source for this is the onomancy in the Arabic *Sirr al-asrar* (*Secret of Secrets*), a compilation of texts purporting to be letters of counsel written by Aristotle to his royal patron.¹⁹ Most European vernacular versions of the *Secret of Secrets* derive from one or other of two Latin translations of the Arabic text: the partial version made by Johannes Hispalensis probably a little before the middle of the twelfth century, and a fuller version made by Philip of Tripoli about a century later.²⁰ Curiously enough, neither of these translations in the numerous manuscripts that have survived, includes the onomancy. This is consequently lacking in all the vernacular versions, except a thirteenth-century Castilian version taken directly from the Arabic, and its Iberian derivatives—all the vernacular versions, that is, except one English version which has puzzled scholars.²¹

(17) The references to Alexander in the earliest ms. of the *Liber Alchandreï* (Paris, BN 17868, s.x^{ex}; here the title is *Liber Alchandreï Philosophi*) are as follows: (fol. 4r) *figuram quam supra hanc artem Alexander Macedo composuit diligentissime posterius describemus*; (fol. 9r) *hunc Alexander Macedo dicit diem Solis eclipsin < et > Lune certissima ratione colligi*; (fol. 10r) *computa numerum nominis eius per septem. Quod vero infra vii remanserit diligenter considera ... si .viii. item, qui primus, Sol aut, iuxta Alexandrum Macedonem, Draco, quasi octava planeta. Si .ix., iuxta hanc sententiam, Venus; iuxta Alexandrum vero Sol*; (fol. 11r) *Regi Macedonum Alexandro astrologo et <in> universa philosophia perfectissimo, Argafalau servus suus... condicione et natione ingenuus Caldeus, professione vero secundus ab illo astrologus, artem suam <donat>.*

(18) See below p. 156.

(19) See the modern English translation of the Arabic text in *Opera hactenus inedita Rogeri Baconi* V, ed. R. STEELE, Oxford, 1920, pp. 250-2.

(20) M. A. MANZALAOUI, *Secretum Secretorum: Nine English Versions*, Oxford, 1977, pp. ix-xxii.

(21) It has been assumed from a statement of Roger Bacon that there were Latin exemplars of the *Secret of Secrets* which had included the onomancy, but that this section was excised from the text because of its dubious magical character. However Roger Bacon, when referring to passages of dubious doctrine which the foolish have censored, mentions only the doctrines of the influence of climate on character and the use of magical names, and not onomancy (see STEELE, *ed. cit.*, p. 38, n. 4, and discussion in M. A. MANZALAOUI, *Philip of Tripoli and his Textual Methods*, in *Pseudo-Aristotle: The Secret of Secrets*, ed. W. F. RYAN and Charles SCHMITT, London, 1982, pp. 55-72, see pp. 63-4.

This version is found in ms. Sloane 213, written ca. 1400, which preserves what appears to be a translation of the physiognomy and onomancy from the *Secret of Secrets*.²² Now, when one compares the onomancy in Sloane 213 with that in the Arabic *Secret of Secrets* and the texts we have surveyed in the Eadwine Psalter, Arundel 339, Ashmole 304 and Sloane 3554, one finds that it is closer to the Latin texts. The arrangement of the table of victorious and vanquished numbers is the same, and differs from the Arabic arrangement; the table is said to be relevant not only in the case of two combatants (the only application mentioned in the Arabic text), but also in the case of illness, and in determining which of a married couple will survive the other; and division by seven is prescribed for the latter. There is little doubt that the onomancy in Sloane 213 and those in the Eadwine Psalter, Ashmole 304 and Sloane 3554 belong to the same tradition. Moreover there are other English vernacular texts which belong to this tradition, of which examples are edited below. Sloane 213 corroborates the connection of Digby 67 with this tradition, for it gives the same table of letter-number equivalents as that found in the *Sententia Alhandrei*. Thus we have a tradition of onomancy preserved in English manuscripts and attributed in certain of these manuscripts to Aristotle and Alexander. The witness of the Eadwine Psalter would suggest that this tradition was already established by ca. 1160, since the scribe thought it unnecessary to add instructions on how to use the tables.

Could it be that a section of the *Secret of Secrets* had already reached England by subterranean channels by this date and that this is the source of this tradition? The earliest manuscript of the translation by Johannes Hispalensis forms part of the collection of medical manuscripts donated by the doctor Heribertus to Durham Cathedral towards the end of the twelfth century.²³ Moreover, this manuscript, in common with the other surviving manuscripts of this version, does not include the onomancy. It is possible, but unlikely, that another translation made from the *Secret of Secrets* reached England in the twelfth century. However, it should be remembered that the *Secret of Secrets* is itself a compilation, and the onomancy, while being an element which contributed to this compilation, also appears on its own in Arabic manuscripts.²⁴ It appears in the twelfth-century manuscript of the Syriac Book of Medicines, amongst a collection of popular ways of predicting the outcome of a disease based on computations using combinations of the numerical equivalents of the

(22) Ed. MANZALAoui, *op. cit.*, pp. 10-17.

(23) Edinburgh, Nat. Lib., Adv., 18-6-11; R. A. B. MYNORS, *Durham Cathedral Manuscripts to the End of the Twelfth Century*, Oxford, 1939, p. 62.

(24) M. ULLMANN, *Die Natur- und Geheimwissenschaften im Islam*, Leiden, 1972, p. 366. This kind of onomancy continued to be popular in the Islamic world; see STEELE, *op. cit.*, pp. LIX-LXII.

letters of the sick man's name, the age of the moon, and the numerical equivalents of the name of the planet ruling the day the man fell sick.²⁵ Many of these passages are very similar to chapters of the *Liber Alchandreï*. As we have seen, the *Liber Alchandreï*—like the *Secret of Secrets*—is a compilation of material associated with Alexander the Great. It is the earliest Latin work to give the Arabic names of the planets and signs of the zodiac, and the 28 'stations of the moon'. Yet it also gives the Greek alphabet, the numerical value of Greek letters, and (in some versions) the Greek names of the planets as well as the Latin translation of the Greek letter of Petosiris to Nechepso, in which Greek words are kept in Greek letters. A text of Alhandreus was known in England in the time of William of Malmesbury²⁶ and a manuscript of Adelard of Bath's rarely copied *Regulae Abaci* once included the *Mathematica Alhandrei*.²⁷ As has been noted, the onomancy 'The Victorious and the Vanquished' has the same 'feel' as sections of the *Liber Alchandreï*. Digby 67, when mentioning the planet-number equivalents, gives the names of the planets in Greek. Arundel 339 includes both the onomancy and a version of the *Liber Alhandrei* on fols. 36v-41.

We may suggest some tentative conclusions. There does not seem to be any need to propose that all instances of the text 'The Victorious and Vanquished' in the West must ultimately derive from an Arabic *Secret of Secrets*. If this method of divination had an Oriental source at all, one might be able to see it as coming through the same channels as the oriental material in the *Liber Alchandreï*, but it is possible that—again like portions of the *Liber Alchandreï*—it derived from Greek. One important transformation would have had to take place. In Arabic as in Greek, the letters of the alphabet had numerical values, and these were the values used or implied in the table of letter-number equivalents in all Arabic and Greek versions of 'The Victorious and Vanquished'. In Latin only a few letters (I, V, X, L, C, D, M) had numerical equivalents, and a set of letter-number equivalents had to be substituted. This set bears no relation to the values in the Greek and Arabic texts.²⁸ However, these

(25) E. A. WALLIS BUDGE, *Syrian Anatomy, Pathology and Therapeutics, or 'The Book of Medicines'*, Oxford, 1913, II, pp. 531-41.

(26) William refers to a 'Alhandreus in stellarum interstitiis' as a work familiar to his audience (R. M. THOMSON, *The Reading of William of Malmesbury, Revue bénédictine* 85 (1975), pp. 362-94, see p. 383, n. 5).

(27) Leiden, Bibliotheek der Rijksuniversiteit, Scaliger 1. Although this is a fifteenth-century manuscript its contents form a unit, the latest work it includes is Adelard's *Regulae abaci*, and it is the only ms. to give Adelard's preface to the work.

(28) An onomancy in which the Latin letters *do* have the numerical values of the Arabic to whose sounds they most closely approximate is found in Cambridge, Fitzwilliam Museum, MS McClean 165, fol. 47v. This is a text for finding the location of a lost object, the letters of which are converted into numbers, and the sum of the numbers is divided by four.

equivalents correspond more or less to those used in many instances of the 'Sphere of Life and Death'.²⁹ The ultimate origin, and the rationale, of this arrangement is as yet undiscovered.

In the Latin manuscripts 'The Victorious and Vanquished' is anonymous, with the exception of Arundel 339. In this fourteenth-century manuscript the work is ascribed to Pythagoras and Ptolemy, but the author adds that Alexander the Great had the table with him wherever he travelled. Alexander's connection with the Table is referred to in the English versions in British Library, Sloane 121, Sloane 213 and Sloane 1609. It is plausible that, like the Alchandrian material, an earlier Western version of 'The Victorious and Vanquished' was associated with Aristotle and Alexander. However, we cannot rule out the possibility that Arundel 339 and these English versions presuppose the knowledge of the onomancy in its context within the *Secret of Secrets*. Since that onomancy is lacking in the two Latin translations of the work, it is tempting to consider the Spanish version (which includes the onomancy) as the vehicle of transmission.³⁰ The presence of Spanish (if 'Anfos' = Alfonsus) and Jewish ('Benaster', 'Daveide') names in the examples given in Sloane 213 adds support to this hypothesis. But even the Spanish version is not independent of an earlier European tradition in onomancy since it includes the same letter-number equivalents as is found in the 'Sphere of Life and Death' and the anonymous Latin versions of 'The Victorious and Vanquished'. The common features of the Latin and vernacular versions of 'The Victorious and Vanquished' which separate them from the Arabic version in the *Secret of Secrets* would suggest that even if the figure of Alexander was taken from the *Secret of Secrets*, it was grafted onto a tradition which already existed in the West. Since the onomancy in the Eadwine Psalter shows no sign of being extracted from the *Secret of Secrets*, it may be an important witness to such an earlier tradition of 'The Victorious and Vanquished'.

APPENDIX I

A LIST OF VERSIONS OF THE ONOMANCY 'THE VICTORIOUS AND VANQUISHED'

The following data are given for each version: title; attribution and addressee (if not in the title); other proper names associated with the use of the onomancy; topics for which the method can be used; presence of an

(29) Cf. the Table in H. E. Sigerist, *The 'Sphere of Life and Death' in Early Mediaeval Manuscripts*, *Bulletin of the History of Medicine* 11 (1942), p. 302, and Table I below.

(30) *Seudo Aristóteles Poridat de las Poridades*, ed. Ll. A. KASTEN, Madrid, 1957, pp. 92-93.

introductory rubric (R), of lists of victorious and defeated numbers (VV), of a table of letter-number equivalents (LN), of a table of planet-number equivalents (PN); the names used in examples of two combatants fighting; manuscripts, editions and translations of the text.

A. Greek.

Letter of Pythagoras to Telauges (Laide, Heliada); combat, lawsuit; R, VV, LN; Hector and Patroclus; mss. Paris, BN, gr. 2009, 2256 and 2419; ed. P. TANNERY, *Mémoires scientifiques*, IX, ed. J. L. HEIBERG, Toulouse, 1929, pp. 35-39.

B. Arabic.

1. 'On the Victorious and the Vanquished', section M(Steele) or Ic (Manzalaoui) of Ps.-Aristotle, *Secret of Secrets*; Aristotle to Alexander; combat; R, VV, LN; mss. Gotha 1869 and 1870, London, British Library or. 3118 and 6421, Oxford, Bodleian, Laud or. 210 and others; ed. A.-R. BADAWI, in *Al-'uṣūl al-yūnāniyya li-n-naẓariyyāli s-siyāsiyya fi l-Islām*, Cairo, 1954, pp. 152-5; tr. A. S. FULTON in *Opera hactenus inedita Rogeri Baconi Fasc. V: Secretum Secretorum cum glossis et notulis ... Fratris Rogeri*, ed. R. STEELE, Oxford, 1920, pp. 250-52; Text A in Appendix 2.

2. 'The Victorious and the Vanquished'; Aristotle to Alexander; combat; R, LN; Moses and Pharaoh, David and Goliath; ms. Berlin, Staatsbibliothek Preussischer Kulturbesitz, Ahlwardt 4248, fols 145v-146r.

C. Syriac.

'Another calculation whereby a man is able to know beforehand which of two men who are striving together will die' and 'Another calculation about a man who is sick'. Aristotle to Alexander; combat, business matters, illness; VV; Alexander and Darius; ed. and tr. by E. A. WALLIS BUDGE, in *Syrian Anatomy, Pathology and Therapeutics or 'The Book of Medicines'*, Oxford, 1913, I, pp. 460-1, II, pp. 540-1.

D. Hebrew.

'The Victorious and Vanquished' within the Hebrew *Secret of Secrets* translated from Arabic (see B. 1 above). Aristotle to Alexander; combat; R, VV, LN; ed. and tr. by Moses GASTER in *Studies and Texts in Folklore, Magic, Mediaeval Romance, Hebrew Apocrypha and Samaritan Archaeology*, II, London, 1925-8, pp. 797-9.

E. Russian.

'The Victorious and Vanquished' within the Russian *Secret of Secrets* translated from Hebrew (see D. 1). Aristotle to Alexander; combat; R, VV, LN; Alexander and Porus; Nestor and Lyaeus (Lijai, Lujai); ed. M. N. SPERANSKIĖ, *Iz istorii otrachennykh knig. 4: Aristotelevi vrata ili*

Tainaya Tainykh, St. Petersburg, 1908, p. 174 (see discussions in W. F. RYAN, *The Onomantic Table in the Old Russian 'Secreta secretorum', Slavonic and East European Review*, 49, no. 117 (1971), pp. 603-6 and IDEM, *The Passion of St Demetrius and the Secret of Secrets. An Onomantic Interpolation, Cyrillomethodianum*, VIII-IX (Thessaloniki, 1984-5), pp. 59-65.

F. Spanish.

- * 'The Victorious and Vanquished' within the Castilian *Secret of Secrets* translated from Arabic. Aristotle to Alexander; combat; R, VV, LN; ed. Ll. A. KASTEN, *Seudo Aristóteles Poridat de las Poridades*, Madrid, 1957, pp. 92-93.

G. Latin.

1. No title or attribution; combat, lawsuit, illness, survival of spouse; VV, LN, LP; Cambridge, Trinity College, R.17.1; Text B in Appendix 2.

2. No title; Pythagoras and Ptolemy; used by Alexander; combat, illness, survival of spouse, survival of brothers and sisters, travellers, business success, prosperous event; R, VV, LN, PN; London, British Library, Arundel 339; Text C in Appendix 2.

3. No title or attribution; combat, lawsuit, illness, travellers, survival of spouse; R, VV, LN; London, British Library, Additional 15236; Text D in Appendix 2.

4. No title or attribution; combat, lawsuit, illness, survival of spouse; R ((a) *Sume duo nomina ...*; (b) *Si vis scire de duobus pugilibus ...*); VV, LN, PN; Sab, Ada, Aba (examples of names whose letters add up to less than 9); London, British Library, Sloane 3554, Oxford, Bodleian, Digby 46 (omits R(a) and PN); Text E in Appendix 2.

5. *Sententia Alhandrei mathematici De Nominibus Latinis*. Only LN and PN; Oxford, Bodleian Library, Digby 67. The lists precede Greek and Hebrew alphabets with their numerical equivalents.

6. Only VV and LN; Oxford, Bodleian Library, Ashmole 304, fol. iv and Ashmole 399, fol. 59r (this adds a man's name to each of the combinations of numbers).

H. English.

1. 'Here sues a calculacion to knowe by of tuo men feghtyng togidere, whether sale be overcomen' (from Scotland or Northern England). Used by Alexander; combat, lawsuit, illness, travellers, survival of spouse; R, VV, LN; London, British Library, Sloane 213; ed. M. A. MANZALAQUI, *Secretum Secretorum: Nine English Versions*, Oxford, 1977, pp. 10-17 (see also IDEM, *Philip of Tripoli and his Textual Methods*, in *Pseudo-Aristotle: the Secret of Secrets*, London, 1982, pp. 55-72, see p. 64); Text F in Appendix 2.

2. No title; no names; combat, illness, lawsuit, travellers, survival of spouse; R, LN, PN; British Library, Sloane 3160; Text G in Appendix 2.

3. No title; used by Alexander; combat, illness, travellers, survival of spouse; R, VV, LN; London, British Library, Sloane 1609; Text H in Appendix 2.

4. No title; no names; combat, illness, lawsuit, travellers, survival of spouse; R, VV, LN, PN; Oxford, Bodleian Library, Ashmole 189; Text J in Appendix 2.

5. No title; Aristotle, used by Alexander; combat, lawsuit, illness, survival of spouse; R, VV, LN; London, British Library, Sloane 121; Text K in Appendix 2.

6. 'Which of the opposite Parties that are at War with one another shall get the better' and 'To know whether the Husband or the Wife shall be the longer Liver'; combat, lawsuit, survival of spouse; R, VV, LN; Peter and Paul; printed in ERRA PATER, *The Book of Knowledge treating of the Wisdom of the Ancients*, made English by W. LILLY, printed for R. Ware, London, 1750; Text L in Appendix 2.

APPENDIX 2

ARABIC, LATIN AND EARLY ENGLISH TEXTS OF THE ONOMANCY 'THE VICTORIOUS AND VANQUISHED'

Text A. The text as it occurs in the Arabic original of ps.-Aristotle's, *Secret of Secrets*, translated into English by A. S. FULTON in *Opera hactenus inedita Rogeri Baconi Fasc. V*, ed. R. STEELE, Oxford, 1920, pp. 250-2.

On the Victorious and the Defeated

An indispensable thing for thee, O Alexander, is this, that thou shouldst find out the name of the person thou art going to fight with, and do not engage in battle unless victory can be computed. This is one of my secrets which I used to practise when I was in thy royal company, concealing it from thee, and which I am now disclosing to thee, according to our covenant. It is one of those mysterious sciences which God has inspired me with and directed me to, through His mercy and wisdom.

(The number-letter equivalents follow.)

O Alexander, count the numbers of the letters of the names of the commanders of both the armies, according to the above table. Then divide the total of each name by nine, and keep in thy mind the remainder of each. Then predict according to the following table, which is correct and unailing, and do thou note it well.

If the remainders are one and nine, one will overcome nine. If one and eight, eight beats one, one and seven, one beats, one and six, six beats, one and five, one beats, one and four, four beats, one and three, three beats, one and two, two beats, one and one, the aggressor wins.

If two and nine are left...

If nine are left in both, the aggressor shall win.

Therefore study this science, O Alexander, and practise it according to thy wisdom and understanding. Thou shalt be victorious and successful, if God wishes.

Text B.

Cambridge, Trinity College, R.17.1 (The Eadwine Psalter), ca. 1160, fol. 282v.

Dies solis .xxiiii. lune .xxvi. martis .v. mercurii .xx. iovis .xviii. veneris .xxx. saturni .xxiiii.

Argumenti prima distinctio.

- Unum et unum, minor vincet.
- Unum et duo, qui habet duo vincet.
- Unum et tres, qui habet unum vincet.
- Unum et quattuor, qui habet .iiii. vincet.
- Unum et quinque, qui habet unum vincet.
- Unum et .vi., qui habet .vi. vincet.
- Unum et .vii., qui habet unum vincet.
- Unum et .viii., qui habet .viii. vincet.
- Unum et .viiii., qui habet unum vincet.

Secunda distinctio.

- Duo et duo, qui fortior est vincet.
- Duo et tres, qui habet .iii. vincet.
- Duo et .iiii., qui habet .ii. vincet.
- Duo et .v., qui habet .v. vincet.
- Duo et .vi., qui habet .ii. vincet.
- Duo et .vii., qui habet .vii. vincet.
- Duo et .viii., qui habet .ii. vincet.
- Duo et .viiii., qui habet .viii. vincet.

Tercia distinctio.

- Tres et .iii., minor vincet.
- Tres et .iiii., qui habet .iiii. vincet.
- Tres et .v., qui habet .iii. vincet.
- Tres et .vi., qui habet .vi. vincet.
- Tres et .vii., qui habet .iii. vincet.
- Tres et .viii., qui habet .viii. vincet.
- Tres et .viiii., qui habet .iii. vincet.

Quarta distinctio.

Quatuor et .iiii., fortior vincet.
 Quatuor et .v., qui habet .v. vincet.
 Quatuor et .vi., qui habet .iiii. vincet.
 Quatuor et .vii., qui habet .vii. vincet.
 Quatuor et .viii., qui habet .iiii. vincet.
 Quatuor et .viiii., qui habet .viiii. vincet.

Quinta distinctio.

Quinque et .v., minor vincet.
 Quinque et .vi., qui habet .vi. vincet.
 Quinque et .vii., qui habet .v. vincet.
 Quinque et .viii., qui habet .viii. vincet.
 Quinque et .viiii., qui habet .v. vincet.

Sexta distinctio.

Sex et .vi., fortior vincet.
 Sex et .vii., qui habet .vii. vincet.
 Sex et .viii., qui habet .vi. vincet.
 Sex et .viiii., qui habet .viiii. vincet.

Septima distinctio.

Septem et .vii. minor vincet.
 Septem et .viii., qui habet .viii. vincet.
 Septem et .viiii., qui habet .viiii.³¹ vincet.

Octava distinctio.

Octo et .viii., fortior vincet.
 Octo et .viiii., qui habet .viiii. vincet.

Nona distinctio.

Novem et .viiii., minor vincet.

De egris et contencione divide per .viii.; de coniugatis, per .vii..

.iii. .iii. .xxii. .xxiiii. .xxii. .iii. .vii. .vi. .xv. .xv. .xii. .xxiii. .xv.

A. B. C. D. E. F. G. H. I. K. L. M. N.

viii. .xiii. .xxi. .xiii. .viii. .viii. .vi. .v. .iii. .iiii.

O. P. Q. R. S. T. V. X. Y. Z.

Text C.

British Library, Arundel 339, s. xiv, fol. 69r.

Regula perfectissima, archanissima, divinissima, in qua satis laboravit

(31) This is an error for .vii.

Pitagoras et Ptolomeus, difficilis originaria notione quam nullus iam mortalium puto sciat excepto divino sapientie secretali Abreo. Hanc Alexander Magnus secum habuit in omni orbis discursu et omnia futura prospera vel adversa providens cuncta subegit. Si egrī restitutionem vel occubitum, in pugna duorum, uter victurus fratres duos aut sorores vel legitime coniugatos, mox ut nomina scieris iudicabis; amicum peregre vadentem, negocium bene vel male die hac immo hora diei inceptum signare poteris et alia. Numeros scribemus omnium litterarum et omnium planetarum ut nomine vel nominibus de quibus queris supputato vultis et facta summa utriusque per .vii. vel per .viii. divisionem per regulas subscribendas, quotus quotum vincat numerum plane ad inferiora decurrendo invenias. Si fuerit negocium unius numerum nominis cum numero stelle que tunc principatur coaptabit diligens inquisitor, nec unquam fallit. Numerum elementorum statim collocemus.

Attende quomodo .xxiiii. horis naturalis diei presit quique planeta. Dum ergo vis videre bene vel male cessurum, quavis hora inceptum negocium sumpto astrolabio horam inveni et quis ea die illi hore dominetur planeta considera, et numerum nominis tui vel eius de quo queris accipere et divide per .viii. , similiter et numerum planete, et uter numerus numerum superaverit, ibi est efficacia; si vicerit stella, malum, si tuum nomen vel alius, bonum. Sic de nomine et stella et pugna erit. De coniugatis vel germanis, facta aggregatione summarum, per .vii. divide et habes quod vis. Super .viii. vel .vii. restant ex alterutra parte tot et tot, quibus inventis, sequentem intueri inscriptionem.

Prima argumenti distinctio unus et unus, qui minorem, vincet.

Unus et duo, qui habet duo vincet,

(Number-letter equivalents, see below.)

(Planet-number equivalents, see below.)

Text D.

British Library, Additional 15236, s. xiii^{ex}, fol. 129v.

The table of distinctions.

Quoniam prescencie verissime perfecta comprehensio soli deo substantialiter constituta consistit neminem contradicere puto, quapropter et is qui tota mente atque humiliter supplicaverit huius argumenti scientiam confitebitur a domino deo esse, quia omnis sapientia a deo est, qui suis rerum secretarum noticiam sua miseratione largitur, sicut Philemo et Pictagore fecit per astronomicam artem istius argumenti paginam plenius innotescere ut per latinas litteras numero singulis earum attributo ut superius potest super quemlibet summatas volenti iudicare de egris, de coniugatis, de contencione, de iter agentibus, de pugna, sive quacumque re alia que fit inter duos veritatem per propria nomina quis eorum vincet,

procul dubio iudicare valebit. Sume igitur numerum prescriptum attributum litteris nominum de quibus fit questio, et collecta summa de quarumcumque re queratur, exceptis coniugatis, divide per novem, et quod superfuerit retine, et in distinctionibus suprapositis occurret tibi iudicium.

De coniugatis vero divide per septem, et quod superfuerit similiter retine — scilicet numerus vincens superans in illis. In coniugatis vero supervivet.

De egris autem si stella — id est planeta — vicerit, morietur; si homo vicerit, evadet mortem, si deus voluerit.

Text E.

British Library, Sloane 3554, s. xv, fol. 12r.

Sume duo nomina non apposita sed que a nativitate sunt, sive de contencione sive de egris sive de coniugatis quis prius morietur, vel de pugna vel de iter agentibus vel unde scire volueris, et ex utrisque nominibus per unamquamque litteram unam facies numeracionem, sicut ibi numerata sunt et divide per novem (Et de coniugatis divide per septem). Et quicquid de novem vel de septem remanserint quere in pagina argumenti, et invenies quis prius morietur, vincet vel vincetur vel redibit, et sic de aliis. Ista regula et tabula deserviet operi sequenti ex alia parte folii istius.

Fol. 12v.

Prime combinacionis distinctio,

Unum et unum minor³² corpore vincet.

Unum et duo, duo Vincent.

Secunde combinacionis consideracio.

Duo et duo forcior vincet.

Tercie combinacionis consideracio.

Tria et tria minor vincet.

Fol. 13r, *Tabula prima.*

(Number-letter equivalents, see below.)

(32) *supra* al(iter) est maior secundum alium librum.

Tabula vile et mortis.

Saturnus .xxiiii., Iupiter .xvi., Mars .v., Sol .xxiiii., Mercurius .xxii.,
Luna .xxvi.

Tolle nomen stelle quo die eger decubuit et nomen egri. Divide numeros appositos litteris nomini egri, numeros etiam appositos nomini stelle, utpote de egris et contenciosis divide per 9, de coniugatis per 7. In fine autem divisionis qui maiori numero gaudet victor erit et evadens nisi desuper aliter per Platonem disponatur.

Argumenti finis huius doctrine talis est.

Si vis scire de duobus pugilibus quis eorum vincere debeat, si fuerint milites, scutiferi vel pedites, aut quis eorum vicit si bellum factum fuerit, aut de aliquo egro si debeat vivere vel mori, aut de viro et uxore quis eorum primo moriatur et sic de consimilibus, sic operaberis.

Sume nomina pugillorum quecumque fuerint que sint prima et simplicia et in Latino sumas nomina et pro qualibet littera nominis unius sume numerum tantum quota littera fuerit in ordine alphabeti, et aggregabis numeros omnes adinvicem. Et sic facies de quolibet nomine et de pugilibus et de egris. Deinde divide per novem quemlibet numerum per se et, quod post divisionem remanserit, hoc est arithmum et cuius arithmum vincit, ille vincet. Verbi gratia : esto quod post divisionem ex uno nomine remaneant 5, et ex alio remaneant 6, dico quod ille cuius arithmum est sex vincet, sicut tactum est in distinctionibus arithmi supradictis. Si vero post divisionem nichil remanserit, 9 erit arithmum. Si vero numerus omnium litterarum non complerent 9, sed solummodo 6 vel 5 vel minorem numerum sicut hoc nomen *sab*, vel hoc nomen, *ada*, vel *aba*, tunc numerus totus est arithmum eius.

Nota tamen quod cum de viro et uxore vis probare dividas per 7 et in aliis questionibus dividas per 9. Item de egro cum vis probare utrum vivat vel moriatur, scias planetam in cuius die eger primo decubuit (14v) et accipe nomen planete et nomen egri et ex illis ar<ithm>a elice, et si arithmum planete vicerit, moritur eger sine dubio, et si arithmum egre vicerit, vivet eger.

Nota eciam quod cum de viro et uxore operaris, uxor intelligitur esse minor sive debilior, vir vero forcior sive maior. Cum vero de planeta et egro, planeta intelligitur maior, vir vero minor sive eger. Cum vero de pugilibus, appellans dicitur maior, appellatus vero minor.

Hec ars que dicitur ar<ithmum> Tholomei per quam si recte in Latino nomina sumpseris et veraciter et proprie litteras numeraveris, finem intentum de supradictis et consimilibus consequeris. Nec distinguas utrum .h. sit littera, quia secundum hanc artem simpliciter est littera.

Sunt enim 23 littere supposite in hac arte. Reliquum est de hoc admirari et creatoris nomen laudibus exaltari qui solus vere noscit et aliquas scintillas vere sciencie nobis revelavit³³.

Text F.

British Library, Sloane 213 (ca. 1400); ed. M. A. MANZALAOU, *Secretum Secretorum: Nine English Versions*, Oxford, 1977, pp. 14-16.

Here sues a calculacion to knowe by of tuo men feghtyng to-gidere, wheþer sale be ouercomen.

Take tuo names of men whilk are gyven þem in þeir birthe, if þou wille wite of þem tuo feghtyng to-gider or stryuyng wheþer sale ouercome, or of tuo folkes weddede wheþer sale lenger life, or of tuo folk goyng any viage wheþer sale come agayne, or of a seke man wheþer he sale dye or life. Counte þe name of ilkone of þem by þe letteres of þe Abc þat sues in þe ende of þis chapiter, and by þe noumber þat es on ilk leter þer-of. And when þou has so done departe al þe hole by nene, saue of þem þat are weddid, by sevene loke þou departe. And by þe ouerplus of þo nene or of þo sevene, þou salt se by one of þise eghte reules, who sale ouercome, who sale raþer dye, who sale raþer come ageyne. And if you wille wite of any seke wheþer he sale dye or life of þat sekenes, take þan þe name of þat seke and of þe lune and of þe day in whilk he toke his sekenes, and acounte as we taght bifore and if þe seke mans name ouercomes he sale life, and if þe lune ouercome, with-uten doute he sale dye. By þis experiment Alixander þe grettest conqueroure þat euer was ouercome many batayles. Wherefore þe first reule es þis: one and one: þe lesse sale ouercome. One and tuo: he þat has tuo sale ouercome. One and thre: he þat has one sale ouercome. One and foure: he þat has foure sale ouercome. One and fyve: he þat has one sale ouercome. One and sex; he þat has sex sale ouercome. One and seuene: he þat has one sale ouercome. One and eighte: he þat has eghte sale ouercome. One and nyne: he þat has one sale ouercome. Tuo and tuo...

Nyne and nyne: þe lesse sale ouercome. Nowe after þe reules go we se þe Abece of þis crafte, wher-by, as we bifore hight, þise countes sale be caste.

A:3 B:3 C:22 D:14 E:25 F:3 G:7 H:6 J:15 K:15 L:22 M:23 N:15 O:8 P:13 Q:21 R:13 S:11 T:8 V:5 X:6 Y:3 Z:4.

Text G.

British Library, Sloane 3160, s. xv, fols 172v-173.

ȝif þat ȝe will witt of a mon þat is seke wheþer þat he will leue or die lok what dai in þe weke þat he fell seke on furst & take þat noumbur þat

(33) relevavit *ms.*

longethe for þat daie & þe noumbur of þe age of þe mon & þe noumbur of al þe letturs of his name at þe font stone & make an hol soume of þe noumbur and departe þem be xxx as many tymes as xxx be in þe hole noumbure & loke i<f> þat³⁴ noumbur is not fulli xxx when þu hast countyd or elles if hit be but xxx lok where þu fynde þe noumbure in þe spere aboue or beneþe yif hit be above he will lyve yif hit be beneþe he will dee.

These ben þe noumburus of þe letturs A.7 B.3 C.6 D.1 E.19 F.14 G.15 H.27 I.17 K.12 L.10 M.40 N.23 O.6 P.11 Q.14 R.16 S.8 T V X Y.9 Z. & 18 9.

And these ben þe noumburs of þe daies þat folowen: Sol .xv.15 Luna .xvii.7 Mars .xvi.31 Mercurius .xxv.9 Iovis .xi.20 Venus .xv.12 Saturnus .xviii.14.

yif þu will count for batell account þe names of þe men bi þe letturs & þe daie in þe wek & þe houre þat þai wold feyt in & make an houll soume be xxx as hit is afore sayd.

To know of hem þat feghten with in lest or pledon at a barre account hur names & depart the noumbur be ix & be þat noumbur þat leuythe ouer ix of iche name tho shalt whitte in þe distinctoune & this may þu witt whatt questioun þu wolde haue vnsware of.

To know a mon or a womon þat fallis sike wheþer he or sho shall liff or dee take all þe noumburis of þe letturs of his proper name not of his sirname & departe them be seve<n> & loke what be leuythe ouer .vii. if þer leue no noumbur put erto on & take þe noumbur of þe daie þat he fell seke & departe all þe noumbur in vii & be þat noumbur þat leuythe loke þe distinctoune & þu shall witte þe sothe.

yif þu will wette queder it be gode nouth³⁵ to take a jorney to goo or to rid loke quat feliship þu shall haue wit þe & þe riȝt names of hem & of þiself & þe age of þe mone & þe noumber of þe daie & sett all in an hooll soume be .iiii. & yif there on þou shold nouthur sped yif þer leue to þu shold nouth riȝt well & if þer leue iii þu shalte rith nother sped þus is proved mony yere ago.

Also if a mon & a womon be weddid togedur whiche shall lyue þe lengur count hur names be .vii. iche be þemself & loke þe distinctouns.

(No 'distinctouns' follow).

Text H.

British Library, Sloane 1609, s. xv, fols 27v-28v.

The riche kyng Alisaunder kyng Philipppis sone of Grece that alle londys and alle kyngdomis conquerid throw strengthe and vertu kyngis

(34) i<f> þat unclear.

(35) not.

emperouris princis dukis and alle lordis ouercom and slow, as a noble knyth he wrouth be this experiment most. That ye shal se thoer a gret clerk whanne he hadde ony gret jurne to done of what cas that it were. And this experiment may serue to wete who shal haue the victori in bataylis, in plee, or of a man or of womman that be weddid who shal lyve lengest, of a manis siknesse yif he shal lyue or deye. And do in this maner: To wetyn of plee or of batayle do thus: Take the cristene manis name of the tweyne men that shul pleetyn togedre or fyghten and gadre out the lettris of eche name be the self out of the a b c that folwith here after. And loke what nombre folwith everye lettre of hise name be the lettres in the a b c and alle that nombre of alle the letteris of his name sette hem alle togedere in oo nombre and departe the nombre in as fele .ix. .ix. as thow may, and loke if there leewe ony nombre after the .ix. or elles if there be but evene upon nynys, and right as thow dost on that on do on that othere. And be the³⁶ levyng of the nombres thow shalt wete ho shal haue the victory. This is the a b c: a .iii. b .iii. c .xxi. d .xxiii. e .xxv. f .iii. g .vii. h .vi. j .xx. k .xv. l .xxi. m .xxiii. n .xv. o .ix. p .xix. q .xiii. r .xvi. s .ix. t .viii. v .vi. x .vi. y .xvi. z .ixxx. (*sic*)

(fol 28r) Thanne³⁷ the names ben devydid and there leve ouer the .ix. oon on that part and but oon o the tother part, the werse shal ouercome. Of to and .i. .ii. ouercomith. Of .iii. and .i. <...> and .iv., .iv.³⁸ shal ouercome. Of .i. and .v. .i. shal ouercome. Of .i. and .vii. .vii. ouercomith. Of .i.³⁹ and .viii. .viii. ouercomith. Of oon and .ix. .ix. ouercomith.

The secunde distyncoun. Yif there leve .ii. and oon of that oo part and .ii. of that other part, the betyr shal ouercome of .ii. <...> and .iii., .iii.⁴⁰ ouercomith. Of .ii. and .iiii. <...> ouercomith. Of .ii. and .v. .v. ouercomith. Of .ii. and .vi. .vi. ouercomith. Of .ii. and .vii. .vii. ouercomith. Of .ii. and .viii. .viii. ouercomith. Of .ii. and .ix. .ix. ouercomith.

The thridde distyncoun. If there leve .iii. .i. of that oo part and .iii. on that other part the bettere man ouercomith. Of .iii. and .iiii. .iiii. ouercomith. Of .iii. and .v. .v. ouercomith. <Of> .iii. and .vi. .vi. ouercomith. Of .iii. and .vii. .iii. ouercomith. Of .iii. and .viii. .viii. ouercomith.

The fourte distyncoun. <Yif> there leve .iiii. on of that oo part and .iiii. on of that other part, the strengere ouercomith. Of .iiii. and .v. .v. ouercomith. Of .iiii. and .vi. .vi. ouercomith. Of .iiii. and .vii.

(36) be *ms.*

(37) rubric: 1^a distinctio.

(38) .vi. .vi. *ms.*

(39) ouer *ms.*

(40) .vi. .vi. *ms.*

.vii. ouercomith. Of .iiii. and .viii. .viii. ouercomith. Of .iiii. and .ix. .ix. ouercomith.

The fiftē distinccioun. Yif there <...> .v. on of o that part and .v. on that other part the bettere shal overcome. Of .v. and .vi.⁴¹ .vi. ouercomith. Of .v. and .vii. fyve ouercomith. Of .v. and .viii. .viii. ouercomith. Of .v. and .ix. .v. ouercomith.

The sextē distinccioun. Yif there leve .vi. on that oo part (fol 28v) and .vi. on the tother part, the strengere shal overcome. Of .vi. .vii. .vii. ouercomith. Of .vi. and .viii. .vi. ouercomith. Of .vi. and .ix. .ix. ouercomith.

The .vii. distinccion. Yif ther leve .vii. on that oo part and .vii. on that tothere part, the better man shal overcome. Of .vii. and .viii. .viii. ouercomith. Of .vii. and .ix. .vii. ouercomith.

The .viii. distinccion. If there leve but .viii. of the oo part and .viii. on that othere strengere shal overcome. Of .viii. and .ix. .ix. ouercomith.

The .ix. distinccion. Yif leve .ix. on the oo part and .ix. on the tother part, the bettere shal overcome.

Thus enden the .ix. distinccionys, that is to seyn the .ix. departyngys.

NUNC FINEM FECI DA MICH I QUOD MERUI.

Text J.

Oxford, Bodleian Library, Ashmole 189, s. xv¹, fol. 80r

Now shall folowe the distinccioun and the rubrysh in englysh to knowe what thou wylt of batell or victorie or of disconfitte or whedre θ^e seke shall lyve or dye, and in like wyse of a man and hys wyfe whedre of them shall ouerleve odre, and in like wyse of oone or ii goyng in a vyage or pilgrimage wych shall firste retorne, and as for batell contraversy and debate and contentioun thos nombres must be devyded by .9. and all cause of mariage muste be devyded by .30. and aftre by .9. and agayne by .7. and procede as ye do wyth the odre tables but take θ^e planet with her nombre, and the age of the mone.

A 3. B 3. C 22. D 24. E 25. F 3. G 7. H 6. I 20. K 15. L 12. M 23. N 15. O 8. P 13. Q 21. R 13. S 8. T 8. U 5. X 6. Y 3. Z 4 (Sun) 24 (Moon) 26 (Mars) 5 (Mercury) 20 (29 above) (Jupiter) 17 (22 above) (Venus) 17 (Saturn) 24⁴².

Sol 24 Luna 23 Mars 5 Mercurius 20 Iupiter 19 Venus 30 Saturnus 24.

The fyrst distinccioun.

1 and 1 the lasse hase θ^e bettre.

1 and 2 .ii. hath θ^e victory.

(41) .v. ms.

(42) In each case the planetary symbols are given for the planet.

1 and 3 i vincit.
1 and 4 .iiii. ouercometh.
1 and 5 i vincit...

Fol. 80v.

The .ix.th distinctioun.
ix and 9, the lasse wynneth.
Gratias nos agamus deo.

Text K.

British Library, Sloane 121, s. xvi.

Fol. 120v (Letter-number equivalents in circle).

The greate king Alixander used this arte by the teachinge of Aristotle to knowe the event of strange thinges before they hapned.

Therefore this arte serveth to know whoso shall have the victorie in Battaile or in plea, or of man or woman that is married which is like to lyve longeste, or in sicknes whether they shall live or dye. Doe in this manner.

To knowe of plea or Battell doe thus: Take the names of the men that shall plead or fighte againste eyther, and gather out the letters of their names eche by itselfe out of the A B C that foloweth or is in the speere above, and loke what number is of everye letter of the names of them (*lacuna of half a line*) and all the numbers of the names and of all the letters sett together in one number and divide it into nines and caste them awaye and looke what remayneth, note downe, or if it be <noghte> be nine. And as ye doe of the one name doe with the other, and by that is lesté of eyther name you shall know who shall have the victorie acordinge to this alphabet.

Fol. 121r.

Prima distinctio: when the names are devided and there remaine above 9 on the one syde and but one on the other, the worse shall overcome. Off 2 and 1 duo shall overcome. Of 3 and 1 one shall overcome. Off 1 and 4 fower shall overcome...

...

Thus endeth the .ix. distinctions that is to saye the .ix. departings for to knowe of plea and Battaile.

Fol. 121v.

For to knowe of them that be married who shall lyve longeste. Departe the number of their names into .vii. and that which remayneth above .vii. as often as it cometh take the number and goe to the distinctions and you shall knowe whoe shall overcome—that is who shall lyve longeste of the two.

To knowe whether a sicke man shall lyve or dye. Take the number of his name nad the number of the stere that longeth that daye of the weeke, and departe or devide the numbers as you doe of plea or battaile, and by that remayneth of anye parte you shall knowe yf he shall lyve or dye. These be the numbers of that belongeth to the dayes of the weke for the steres: sonndaye⁴³ xxiiii, monday xxiii, tewsdaye vi, weddensdaye xx, thursdaye xix, ffridaye xxx, saturdaye xxxiiii.

Thus shall you knowe yf it be good and evell to Begine anye jorneye or goe in anye waye. Att the coniunction to the ages of the moone, and the age of the daye of the weke—that is to saye the number of the steres of the daye and the letters of the owne name of those that shall goe with thee, and all these numbers put together, and then begine att the firste (*lacuna*) and saye Christus, and att the seconde, deus, and at the thirde, homo, and so doe till all the numbers be spent, and if it riste upon Christus he shall spede well, and yf it leave upon deus, he shall spede well, but not so well, and yf it reste upon homo it is not good to g<0>e oute, for he shall not spede well in no wyse for certayne.

Text L.

ERRA PATER, *The book of Knowledge, treating of the Wisdom of the Ancients*, made English by W. LILLY and printed for R. WARE, London, 1750, p. 77.

VI. Alphabetical Tables, rightly resolving sundry questions and demands, etc.

I. Which of the opposite Parties that are at War with one another shall get the better.

A 13, B 3, C 22, D 24, E 22, F 3, G 7, H 6, I 20, K 1, L 16, M 23, N 12, O 8, P 13, Q -, R 13, S 9, T 8, V 2, X 6, Y 6, Z 4.

Now to put this Alphabet rightly inPractice, you must find out the proper names of the contending parties who shall either make Wars, or go to Law with each other. Then put their names into Latin, and let it be in the Nominative case singular, observing the Orthography. And then as you see in the Alphabet, place unto each of those names the numbers belonging to him, according to the table here before written, and put the Total of the said numbers together, or—which is the same thing—each Man by himself, and when you have so done, divide them by 9, and by what remains on the one part and the other, you shall find it with ease. Next take notice of the following Rules by which you may learn what shall befall the one and the other; and if it happen that after you have divide<d> the Whole by 9 /p. 78/ nothing remains, you must take the last 9 instead thereof, as Experience will afterwards teach you.

(43) sonndaye steres *ms.*

Now if very rarely, if at all, ever happens, that the opposite Parties are of the same name, therefore search diligently for their right names, and that you may be the better acquainted with this rule, suppose for Example's sake, that those two contending parties should be Peter and Paul, if you but consider what has been laid down before, you shall be able to give a right judgement. But you must lay this down for a certain Maxim. That the divine being is the great Causer and Disposer of all effects, changing and altering them according to his own Will. And therefore what is here said, is according to the Starry Influences, when no superior Power interposes:

P	13	P	13
E	22	A	17 (<i>sic</i>)
T	8	U	2
R	13	L	10 (<i>sic</i>)
U	2	U	2
S	9	S	9
67; makes 7 times 9;		makes 4 times 9;	
rests 4		rests 1	

And so in this Instance is shewed unto you their Names, Numbers and Sums, which being divided by 9, to Peter there remains 4, and into Paul rest<s> 1.

The following Table likewise lets you see which of the two shall get the better, according to the rule foregoing:

1	the conqueror	3	5	7	8
2		1	4	0	9
3		2	5	7	9
4		1	3	9	8
5		1	4	7	9
6		1	3	6	8
7		2	4	6	8
8		1	3	5	7
9		2	4	9	8

p. 79

To know whether the Husband or the Wife shall be the longer Liver.

To resolve this Question, the proper names of the Man and the Woman must be writ in Latin, and the number belonging to each Letter added thereto, as in the foregoing [the] Alphabet, then, gathering the Number into one total, divide them by 7, and if the Remainder be even, the Man shall live the longest, but if odd, the Woman.

Number-Letter Equivalents

	Cambridge, Trinity R.17.1	Bodleian, Digby 67	British Lib. Arundel 339	British Lib. Sloane 3554	<i>Poridal de la Poridades *</i>	British Lib. Sloane 213	British Lib. Sloane 121	British Lib. Sloane 1609	Erra Pater	Orléans, BM 276	Vercelli (<i>apud</i> Sigerist)	Paris, BN, lat. 17868 fol. 16v	
A	3	3	3	3	3	3	3	3	13	3	3	3/3	A
B	3	3	2	3	3	3	3	3	3	3	3	3/6	B
C	22	22	22	25	23	22	21	21	22	22	24	27/22	C
D	24	24	24	24	24	14	23	23	24	24	24	23/23	D
E	22	22	25	25	25	25	25	25	22	15	15	15/25	E
F	3	3	3	3	3	3	5	3	3	3	3	3/4	F
G	7	7	7	7	7	7	7	7	7	7	7	13/3	G
H	6	6	6	6	6	6	6	6	6	6	6	11/6	H
I	15	15	20	20	15	15	20	20	20	15	15	15/21	I
K	15	15	25	15	15	15	15	15	1	15	15	15/20	K
L	12	12	12	12	11	22	20	21	16	25	21	21/21	L
M	23	23	23	23	23	23	23	23	23	24	23	23/33	M
N	15	15	15	15	15	15	15	15	12	15	15	20/13	N
O	8	8	8	8	18	8	8	9	8	8	9	9/7	O
P	13	13	13	13	13	13	13	19	13	—	14	19/14	P
Q	21	21	21	21	16	21	25	13	—	21	21	21/20	Q
R	13	13	13	13	13	13	13	16	13	12	13	12/13	R
S	9	9	9	8	9	11	8	9	9	9	9	9/19	S
T	8	8	8	8	8	8	8	8	8	9	8	9/18	T
V	6	6	5	5	5	5	5	6	2	6	5	6/5	V
X	5	5	6	6	6	6	6	6	6	15	6	15/6	X
Y	3	3	3	3	3	3	2	16	6	6	3	5/6	Y
Z	4	3	4	4	—	4	7	30	4	3	3	3/3	Z

Victorious and Vanquished

Sphere of Life and Death

TABLE II
Number-Planet Equivalents

	Cambridge, Trinity R.17.1	Bodleian, Digby 67	British Library, Arundel 339	British Library, Sloane 3554	Paris, BN, 17868
☉	24	24	—	24	318
☽	26	26	26	26	301
♂	5	5	5	5	309
♀	20	20	20	22	353
♂	19	19	17	16	612
♀	30	30	30	—	993
♂	24	24	24	24	510

ADDENDUM

Since this article went to press Text J above has been edited in W. L. BRAEKMAN, *Studies on Alchemy, Diet, Medecine (sic!), and Prognostication in Middle English, Scripta*, 22, Brussels, 1988 (for 1986), pp. 105-11. These further Mss of 'The Victorious and Vanquished' have come to my attention. The descriptions conform to those in Appendix I above.

G. *Latin*. 7. No title; R, VV, LN, PN; Ptolemy and Pythagoras, Theodosius and Agminea, Leo and Alexander, Taurus and Eneas; London, British Library, Arundel 292, s.xiii, fols. 111v-112v. The rubric is that of Text D (with 'phtolomeo' for 'philemo' in line 5) with an additional section.

8. No title (begins 'Si quis vult scire de duobus contencionem habentibus, quis eorum vicerit...'); combat, illness, survival of spouse, travellers; R, VV; London, Wellcome Foundation, 559, s.xv, fols. 46r-v.

H. *English*. 7. No title (begins: 'Here begynnyth a proue for to wete...'); combat, travellers, illness, survival of spouse; R, VV, LN, PL; VV repeated in Latin; Cambridge, St. John's College, B.15, s.xv, fols 51v-52v.

8. A rewle for dyvers thynges; illness, etc.; R, VV, LN, PN; alphabetical lists of female and male names; Yale, Beinecke, 558, s.xv codex, fols. 71r-73v. This text is in a mixture of English and Latin.

9. Alexanders distinctions & iudgment (salomons dystynctyons); survival of spouse; R, VV; Yale, Beinecke, 558, s.xvi codex, fol. 62v.

J. *German*. 1. No title (begins: 'Disz ist czu wissen...'); illness; R, VV, LN, PN; text edited from cod. Berol. 244 9s.xiv^{ss}, fols. 193r-v, in G. Eis, *Wahrsage texts des Spätmittelalters* (Berlin, 1956), pp. 50-52.

2. Tabula Pytagorei; illness, survival of spouse; R, LN, PN; Stuttgart, Württembergische Landesbibliothek, HB XI 43, s.xv^{ss}, fol. 47r-48r.

I am grateful to Richard Beadle, Richard Kieckhefer, Linda Voigts and Christoph Wiesser for these references.

XVIII

A NOTE ON TWO ASTROLOGICAL FORTUNE-TELLING TABLES

In *Revue d'histoire des textes*, 6 (1976), pp. 267-304, Paul Kunitzsch published a curious fortune-telling table which he had found in two manuscripts of the twelfth century — *Paris, Bibliothèque nationale, lat. 14754 (P)* and *Hanover, Niedersächsische Landesbibliothek IV.394 (H)*. The table (henceforth : 'Kunitzsch's table') is in the form of a grid with two axes. Along the vertical axis are written the names of the planets and three other astronomical terms — the full moon, the ascending node, and what is probably the Dog Star. Along the horizontal axis are ten of the twelve signs of the Zodiac, written from right to left. In each of the hundred squares of the grid there is a prediction written twice : the upper version gives the prediction in Latin, the lower, in Arabic transliterated into Roman script. In theory the reader may follow the coordinates corresponding to the prevailing astronomical situation and discover what activity he should be engaging in. For example, if the Moon is in Scorpio he should be listening to the sound of a lute. However, the astrological terms, in all probability, serve merely as a means of organizing the data and one should not look for any sophisticated astrological practice here.

Kunitzsch was not able to find any table in Arabic or Latin which was similar to this table. Indeed, he could bring forward only one other example of a bilingual Latin-Arabic text, this being a chapter on the climes from *De horologio secundum alcoram*. The form of the table, however, is not unique. Kunitzsch has observed that in both *H* and *P* the table immediately precedes the tables of the *Preceptum Ptolomei*, a partial translation of the *Handy Tables* of Theon, made from Greek in the sixth century. When we turn to two early Latin manuscripts of astronomical tables, *Leiden, Bibliotheek der Rijksuniversiteit, Scaliger 38 (S)*, of the eleventh century¹ and *Paris, Bibliothèque nationale, lat. 16208 (N)*, of the early thirteenth century², we find a table which looks very similar to Kunitzsch's table. On folio 135 r^o of *N* the table follows a copy of the Toledan Tables. It is headed *Tabula **

1. The table is found on fol. 37 v^o. For a description of the early astronomical works in this MS see W. BERGMANN, *Innovationen im Quadrivium des 10. und 11. Jahrhunderts*, Sudhoffs Archiv, Beiheft 26 (Stuttgart, 1985), pp. 241-242.

2. See F. AVRII. and M.-Th. GOUSSET, *Manuscrits enluminés d'origine italienne. 2 : XIII^e siècle* (Paris, 1984), p. 65.

prenostica Salomonis. The horizontal axis gives the names of the twelve signs of the Zodiac, this time, in contrast to Kunitzsch's table, from left to right. The vertical axis gives twenty-four 'unexpected events'. These are, from top to bottom :

1.	De sonitu domus	The creaking of the house
2.	De tinitu aurium	Ringling in the ears
3.	De voce corvi	The cawing of a crow
4.	De voce galli	The crowing of a cock
5.	De motu oculorum	A tic in the eyes
6.	De sonitu ignis	The hissing of the fire
7.	De ululatu canis	The howling of a dog
8.	De voce soricis	The squeak of a shrew-mouse
9.	De incensis vestibus	Clothing on fire
10.	De terremotu	An earth-tremor
11.	De clamore gatte	Caterwauling
* 12.	De inquinata veste femore	Clothing stained with filth (?) ³
13.	De casu avis iuxta te in via	A bird falling in your path
14.	De subito candela exstincta	A candel suddenly extinguished
15.	De intuitu gatte in foramine	On seeing a cat through a hole
16.	De pulsu brachii	A spasm in the arm
17.	De pavore somnii	A night terror
18.	De occurso fere	On meeting a wild animal
19.	Si sorex vestimentum roserit	If a shrew-mouse has bitten a hole in a garment
20.	De eo si vestimentum lanerit	If it has torn it ⁴
21.	De subito incurso bestie in curte	The sudden entry of a beast into the courtyard
22.	De crepitu ignis	The crackling of the fire
23.	Si ignis sintillat	If the fire gives off sparks
24.	Si vestimentum inquinatum sanguine	If a garment is stained with blood

The 288 predictions from the combinations of a sign of the Zodiac with one of these unexpected happenings range from single-word statements : 'good' (*bonum*), 'happiness' (*leticia*), 'difficulty' (*angustia* (sic !)), 'illness' (*egritudo*), 'sadness' (*dolor*), and 'journey' (*via*), to more precise indications : 'he has lice in his clothing' (*pediculos habet in veste*), 'he will have a pain

3. Reading *fetore* for *femore*.

4. Reading *lanaverit*.

in his heels' (*egrotabit in calcariis*), 'a separation from a friend' (*separatio amici*), 'a patriarch will die' (*patriarcha morietur*). Not surprisingly, many predictions concern money (*inventio pecunie, minoratio pecunie, pecunia et magnitudo*, etc.), status (*ditabit vel regnabit, augmentum honoris, auferetur a potestate*, etc.), enemies (*inimicus egrotabit, inimicus morietur*, etc.), and marital or sexual affairs (*uxorem habebit, uxor morietur, fornicatio*, etc.). There is a good chance that he who consults the table will find what he likes (*inveniet quod amat*), and eventually receive refreshment of the soul (*refrigerium*). The language of this table has vernacular traits (*curtis* for 'courtyard', *insecurita* and *potesta* without the final *s*). There is no evidence that an Arabic original lies behind the table, and it is more likely that it might be based on a Greek version (cf. the term *patriarcha*). Kunitzsch's table must have been adapted from an Arabic table. Its predictions do not correspond to those of the *Tabula prenostica Salomonis*. Nevertheless, both tables have the same 'feel', and both add a lighter tone to the folios of technical astronomical tables they accompany.

The *Tabula prenostica Salomonis* was not without influence in later centuries. It is debatable whether Chaucer is referring to this table in particular when he mentions, among other signs used for divination, 'crakkinge of houses' and 'gnawynge of rattes'⁵. In the sixteenth century, however, we know of one manuscript⁶ and one printed edition⁷ of a work which is entitled : [Liber] Zebelis regis et sapientis Arabum vetustissimi, de interpretaatione quorundam accidentium, tam externorum quam internorum, sive eventuum innopinatum, rarorum et insolitorum, secundum Lunae motum, per duodecim zodiaci celestis signa, observationes accuratissimae Zebelis. The printed edition is bilingual, in Latin and German, and begins with an elaborate preface by the German alchemist Heinrich Khunrath of Leipzig⁸. In this he states that he took his text from a manuscript belonging to the Electors of Brandenburg (possibly the manuscript still in Berlin), and justifies the work in the following way : God speaks to men by using all his creatures like letters of the alphabet. Thus the kinds of unexpected happenings mentioned by Zebel indicate the voices and sentences of God. Even the Pytha-

5. Geoffrey CHAUCER, *The Persones Tale*, c. 38, sentence 604 (ed. W. W. SKEAT, *The Complete Works of Geoffrey Chaucer*, vol. 4 (second edition, Oxford, 1900), p. 607 : What seye we of hem that bileven in divynailes, as by flight or by noyse of briddes, or of bestes, or by sort, by geomancie, by dremes, by chirkinge of dores, or crakkinge of houses, by gnawynge of rattes, and swich manere wrecchednesse ?

6. MS Berlin 965, referred to by L. THORNDIKE, in *History of Magic and Experimental Science*, vol. II (New York, 1923), p. 391, n. 6.

7. Prague 1592. I follow the Prague edition.

8. Khunrath (1560-1605) is best known for his lavishly illustrated *Amphiteatrum Sapientiae aeternae* (Prague, 1598) ; the *Liber Zebelis* appears to be the earliest printed work bearing his name.

goreans understood this. 'I have examined', Khunrath says, 'and put to the proof the observations of Zebel on many occasions, and found them not at all frivolous or false. For God speaks to the humblest of men through these * unexpected occurrences'. Khunrath's preface is followed by that of Zebel, which outlines the virtues and benefits of astrology. Turning to the work at hand, Zebel states that no event is truly fortuitous since ultimately each thing has God as its legitimate cause. Zebel's grandfather handed down the secrets of the art to Zebel, including a volume with 1,300 chapters, entitled 'the book of the judgements of unexpected events' (*liber iudiciorum inopinatum eventuum*). From this book, at the urging of Zebel's son Selam, Zebel extracted the most remarkable parts and summarized them, adding some things, but omitting a large part of the work. Zebel's grandfather, incidentally, also wrote ten books 'about the administration of the state' (*de administratione Reipublicae*) and was a good king. The preface ends by emphasizing that nobody should attempt to use the book who does not take it seriously and wishes to deride or scorn its contents. These contents are precisely those 'unexpected events' of the *Tabula prenostica Salomonis* with others added: sonitus parietum, tinnitus aurium, corvina crocitatio, gallinus cantus, motus oculi, sonitus ignis, canis ululatus, de voce soridis, exustio vestimenti, motus terrae, clamor cattaë, ingravatio femoris, avis cadens in terram, obviatio ferae silvarum, extinctio candelaë, etc.⁹. For each event, a very short prognostication is given for the Moon in each of the signs of the zodiac.

APPENDIX

With the help of Simon Hopkins, now of the Hebrew University, Jerusalem, I had been working independently from Paul Kunitzsch on the copy of the fortune-telling table in *Paris, Bibliothèque nationale*, lat. 14754. The Service photographique of the Bibliothèque nationale kindly provided us with a very clear 24,30 cm. photograph of the table (fol. 244 v^o), and, on the basis of this copy, in certain cases we arrived at different interpretations from those adopted by Kunitzsch. While acknowledging Kunitzsch's masterly achievement in deciphering and interpreting the table, I would like to suggest, by way of an appendix, some variant interpretations which might be worth considering¹⁰.

1. *Convenientia desideria/bilos emel*. Possibly *bulūgh āmāl*, 'attaining desires'.

9. The 'unexpected events' are numbered, in an erratic way, up to 126.

10. The item numbers are those of Kunitzsch. The reading is that of MS *P* unless

9. *Manducare pullum anseris/ekel poton*. Instead of the ingenious suggestion that a Romance word appears in the Arabic phrase, it might still be possible to consider *poton* (which is clearly written in both MSS) as the Arabic word *batt* ('duck'). This would be closer to the Latin translation *anser* ('goose') than is Kunitzsch's suggestion of *bijūn* ('young dove').

16. *Orare in absconso/dartafahali*. The Arabic phrase would seem to mean 'breaking wind in secret' (*ḍarṭa fī l-khafīy*; this is Kunitzsch's explanation). If so perhaps the Latin *orare* has derived by stages of corruption through *petere* ('to seek') from *pedere* ('to break wind').

17. *Cantilenas bonas/ginēantagib*. The Arabic phrase is *ghinā(an) ṭayyib* ('good singing'). The termination *an* would be the Spanish Arabic marker of an indefinite noun followed by an attribute¹¹.

23. *Comparare mulum/scire gabal*. It is tempting here to accept Richard Lemay's more natural reading of the Latin — *mulum* (*mului H, mulu P*)¹², and interpret the Arabic as a misspelling or metathesis of *bagel* (from *H*) or *bagal* (from *P*), i. e. *bighāl* ('mules'), or *baghl* ('mule').

25. *Pellicinam madurinam/faro fenek*. The Latin phrase presents no problems: *madurinam* is a corruption, or a variant influenced by vernacular pronunciation, of *marturinam*, from *marturinus* ('of marten-fur')¹³.

33. *Sonitum tubarum/darbarkela*. There may be no need to look for a musical instrument in the Arabic phrase. Rather, one could read *ḍarb arkila* ('smoking a hubble-bubble'). The Latin translator may have misunderstood the activity, but *tubae*, meaning in post-Classical Latin 'tubes' or 'pipes' as well as 'trumpets', would be an approximation to the coils of the hubble-bubble.

35. *Continentie gallorum/nikambidic*. Perhaps the Latin phrase means 'pens' for cockerels; *gallorum* would seem to be the translation of *bi dik* ('of cocks')¹⁴.

38. *Manducare cybum cum tribus rebus factum/ekelmuthel*. The Latin translation 'to eat a dish made from three things' would suggest a reading such as *ekelmuthelath*, i. e. *akl muthallath* ('a tripled food')¹⁵. Both

otherwise stated. We are grateful for the advice freely given by Federico Corriente, Derek Latham and Lawrence Picken.

11. See F. CORRIENTE, *A Grammatical Sketch of the Spanish Arabic Dialect Bundle* (Madrid, 1977), pp. 121-122.

12. R. LEMAY, *A propos de l'origine arabe de l'art des troubadours*, *Annales. Économies, Sociétés, Civilisations*, 26.5 (1966), p. 1000.

13. R. E. LATHAM, *Revised Medieval Latin Word-List* (London, 1965), p. 291, s. v. 'martrina'.

14. For *continentia* = 'container', see R. D. LATHAM, *Dictionary of Medieval Latin from British Sources* (London, 1975-), s. v., sense 2 b. I follow the reading of MS P.

15. Cf. R. DOZY, *Supplément aux dictionnaires arabes*, 2nd ed. (Leiden, 1927), I, p. 163: *muthallatha* = a dish made from rice, lentils and wheat.

manuscripts would represent a truncated form of this word (*ekelmuthel P*, *ekelmuthe H*).

90. *Ordinem episcopalem/ekelzir*. The Arabic phrase is the translation of the Latin phrase in square no. 83 — *manducare cucumeres*, which is not accompanied by its Arabic equivalent¹⁶. We must therefore read *ekelhir*, i. e. *akl khiyār* ('eating cucumbers'). *z* and *h* are often confused in the manuscripts since they are written in a very similar way to each other.

98. *Ascendere turrim/rukubthor*. Since in the Arabic phrase *thor* is plainly written and immediately identifiable as *thawr* ('bull')¹⁷ it may be that the Latin *turrim* is an error for *taurum*; 'riding a wall' is a rather unlikely interpretation.

16. The Latin and Arabic phrases have become mixed up also in squares 47, 54, 88 and 94.

17. Cf. the zodiac sign *buricathaur* = *taurus*, and *thob* for *thawb* in square no. 36.

THE ASTROLOGER'S ASSAY OF THE ALCHEMIST: EARLY REFERENCES TO ALCHEMY IN ARABIC AND LATIN TEXTS

THE early history of Arabic alchemy and the means by which it was transmitted to the West are topics as elusive as the Philosopher's Stone itself, and as passionately pursued. It is not the purpose of the present note to add fuel to the controversies.¹ Rather, I would like to introduce some references to the term "alchemy" in Arabic and Latin texts which historians of alchemy seem to have overlooked up to now, but which would seem to have a bearing on the introduction of alchemy both into the Islamic and into the Christian world.

The term *al-kīmiyā'* can be found in a text belonging to the earliest period of scientific prose writing in Arabic, and, as *alkimia*, was in turn introduced to Latin readers in a translation of this text made before 1151. The text in question is 'Umar ibn al-Farrukhān al-Ṭabarī's *k. al-masā'il* ("book of questions") in 138 chapters. 'Umar ibn al-Farrukhān al-Ṭabarī was one of the astrologers who participated in casting the horoscope for the foundation of Baghdād in 762.² He was responsible for translating important astrological texts from Persian into Arabic, including Ptolemy's *Tetrabiblos*, Dorotheus of Sidon's *Astrological Poem* and a work on questions of law and ritual purity (the *k. al-mahāsin*).³ His *k. al-masā'il* belongs to the astrological genre of "interrogations", in which the astrologer, on being questioned by his client concerning a particular topic, indicates what will happen or reveals what is hidden by looking at the state of the heavens (the horoscope) at the time of the question. After the first few introductory chapters, each of the chapters of the *k. al-masā'il* is devoted to a different question. Following chapters related to marriage and before others referring to the weather, there is a chapter on whether to trust the alchemist or not. It may be translated as follows:⁴

Chapter 79. On the knowledge of alchemy (*fī ma'arifāt amr al-kīmiyā'*).

When you wish to know concerning a man whether he knows the science (*'ilm*) of alchemy or not, assign the ascendent and its lord to the querent, and the seventh and its lord to the man enquired about by the querent. And the house of the knowledge of the man is the ninth from the seventh sign. And see whether this is fortunate or unfortunate, East or West, cadent or in a cardine or withdrawing from a cardine, and whether it is in aspect to the lord of the seventh. And if it is aspecting it and it is fortunate, it indicates that in his hands is a true knowledge (*'ilman ṣaḥīhan*), especially if the aspect is trine or sextile and there is application and reception between them. But if the aspect is quartile or from opposition, it indicates that there is in his hands something powerful (*shay'an qawīyyan*) and that he attains it with much seeking, labour and exertion, and this is the case when benefics are aspecting it. And if malefics are aspecting it, it indicates that there is labour (*ta'ḥ*) in it, and he does not obtain anything from it.

Since the *k. al-masā'il* is commonly referred to by the number of its chapters and chapter 79 is a complete chapter in itself, it is unlikely that it is a later addition. Given that 'Umar's family is Persian, and that all the translations we know by him are from Persian, it is possible that the material in the *k. al-masā'il* comes from Persian sources.⁵ However, at the time he

was writing, other astrologers were using Greek and Syriac materials; in fact the writings of one of them, the Syrian Christian Theophilus of Edessa (d. 785), survive both in Greek and in citations by his Arabic colleagues.⁶ Since the term *al-kīmiyā'* is apparently derived from a Syriac rendering of the Greek χυμεία or χημεία, then 'Umar's source may have been Greek.⁷ In any case, the reference to *al-kīmiyā'* gives no indication that the term was not familiar to his readers. This is understandable if alchemy was practised in the Arabic world even before theoretical texts on the art were written, which is plausible. Whether this chapter can be regarded as the earliest written record of alchemy in the Islamic world depends on what historical value can be placed on the writings attributed to the Umayyad prince Khālīd ibn Yazīd (late seventh century) and the Shī'a imām Ja'far al-Šādiq (ca. 699–765). In any case 'Umar's dates would be almost the same as those traditionally assigned to Jābir ibn Ḥayyān (721–815), and the chapter from his *al-kīmiyā'* would be an independent testimony to the lively interest in alchemy at that time.

'Umar's *k. al-masā'il* was translated into Latin by Hugo of Santalla probably between 1141 and 1151, and possibly even before 1141. Hugo's translation is incorporated in a collection of three works on judicial astrology—the *Liber trium iudicum*—addressed in two out of the three manuscripts in which it occurs to Michael, Bishop of Tarazona from 1119 until 1151.⁸ All the translations of Hugo which have dedications are dedicated to this bishop, and one of them, we are told, was made from an Arabic manuscript found in the library of the Arabic kings of Zaragoza at Rueda de Jalón.⁹ Since this stronghold fell to the Christians in 1141, it is possible that this and other Arabic manuscripts were part of the booty. On the other hand the manuscript could have been acquired earlier through a friendly exchange. Hugo's translation in the *Liber trium iudicum* is headed:

Here begins the book of 'Umar ibn al-Farrukhān al-Ṭabarī, the translation of Hugo of Santalla, excerpted from the volumes of the Ancients, solving many kinds of questions as if being their principal starting-point (as due thought teaches us). This book is divided into 138 chapters.¹⁰

The wordiness of the title is typical of Hugo's style, but the translation of chapter 79 is literal enough and makes good sense:

'Umar, *On alchemy*.

When the question has been asked whether the discipline of alchemy has been fixed firmly and surely in a man, assign the ascendent and its lord to the querent, and the seventh with its lord to the man about whom the question is asked. For the ninth sign from the seventh one shows his knowledge. (See) whether it is fortunate or corrupt, East or West, or cadent, in a cardine or withdrawing from a cardine, whether too they aspect the lord of the seventh. For if they aspect the lord of the seventh and they themselves are fortunate, they indicate that he is skilled (*peritum*), especially in trine or sextile (aspect), while their application does not lack reception. But (an aspect) from quartile or from opposition bears witness to the fact that he has acquired this (art) with difficulty and after many inconveniences of labour—that is, if the aspect of benefics is not absent. For if the malefics aspect, even if he has studied with difficulty, his efforts have been without effect.¹¹

Hugo's translation could be roughly contemporary with the date associated with the earliest Latin alchemical text—the *Liber Morieni* translated by Robert of Chester in 1144.¹² What is interesting is that the writer of the *Liber Morieni* presents 'alchymia' as a term

unfamiliar to its Latin audience, and gives it a definition which would be more appropriate to the Philosopher's Stone:

Since you Latins have not yet understood what *alchymia* is, I shall enlighten you in the present work . . . Hermes the philosopher and others who came after him, defined the word in such a way: *alchymia* is a corporeal substance composed from the One and through the One, joining the most precious things together through relationship and effect, and naturally converting the same things by a natural commixture and by the best artifices (*ingenia*).¹³

Hugo, on the other hand, uses *alkimia* in the more ordinary and proper sense, and gives no indication that his audience might not understand the meaning of the term. We may presume that alchemical techniques were practised in Western Europe before Arabic texts on alchemy were translated into Latin. Robert Halleux and Paul Meyvaert have recently shown that an artisan's textbook which included alchemical recipes from Greek sources circulated in the early Middle Ages; this is the *Mappae clavicula*.¹⁴ However, the *Mappae clavicula* does not use the term *χυμεία* or its cognates and there is no datable evidence of its use in Latin before the *Liber Morieni* and, now, Hugo's translation of 'Umar's *k. al-masā'il*. Hugo was otherwise familiar with Arabic alchemy, for he was also responsible for making the earliest translation of the *Tabula smaragdina* of Hermes Trismegistus. This mysterious text was regarded as the key to alchemical esoterism and is the culmination of the Hermetic revelation in Pseudo-Apollonius's *Secrets of Nature* which Hugo translated from Arabic.¹⁵

These references to alchemy are not the only ones found in Arabic and Latin astrological texts. For Sahl ibn Bishr, who was active in Marw and Baghdād in the first half of the ninth century,¹⁶ gives alchemy as a topic in two of his works. In his own book on interrogations we read the following:¹⁷

And if you are asked about a work (*bāb*¹⁸) of alchemy (*kīmiyā'*), whether it is true (*haqq*¹⁹) or false (*bāṭil*), then look at the lord of the ascendent and the Moon, and if they are free from the malefics, then it is a true being (*kā'inun haqqun*). And if they are malefics, then it is false. And if it is gold, then use the testimony of the Sun, and if it is silver, then the Moon.

The question is the same as that in 'Umar's text, but the observations are simpler. In addition, Sahl specifically mentions the making of gold and silver, leaving one in no doubt that traditional alchemy is the subject.

In Sahl's work on catarchic astrology (*i.e.*, about choosing the time that the stars indicate to be most appropriate for commencing an activity)²⁰ it is the alchemist himself who is asking the astrologer about the right time to initiate the Work:²¹

And if you want to deal with alchemy (*'ilāj al-kīmiyā'*²²) and to practise something you want to do repeatedly, then let this be done when the Moon is in two-bodied signs, free from malefics, and let the ascendent be in such a position, and fix it. If the dealing (*'ilāj*) is in gold, then the Sun should be strong, and fix it at the beginning of this.

This appears in a slightly different form in a *maghribī* manuscript of the text, which gives:²³

And if you want to practise alchemy (*'amal al-kīmiyā'*²⁴) and deal with it (*'ilājahā'*²⁵), and what returns into the hands of the man practicing {alchemy} many times, then

let this be done when the Moon is in a ⟨two⟩-bodied sign, pure from malefics, and let the ascendent be in such a position, and fix it. And if the dealing (‘*ilāj*’) is in gold, then from the Sun, and fix it at the beginning of your ⟨task⟩.

Both these texts of Sahl were translated into Latin in Spain in the twelfth century. The first appears in the same *Liber trium iudicum* as ‘Umar’s book on interrogations, and is in the terse style distinctive of Hugo’s associate Hermann of Carinthia, though no translator’s name appears at the beginning of the text, which is headed “*Liber Zahel de iudiciis .lvi. capitulis distinctus*” (“The book of Sahl concerning judgements, divided into 56 chapters”):

Sahl, *On alchemy*.

When investigating the truth concerning alchemy we consult the lord of the ascendent and the Moon, which, if they are pure and free from the malefics, are an indication of the truth ⟨of the alchemy⟩. If they are corrupted, the opposite. Therefore if it concerns gold, we accept the Sun as testimony; if silver, the Moon.²⁶

In the larger collection of works of judicial astrology called the *Liber novem iudicum* the phraseology sounds more like that of Hugo:

Sahl, *On alchemy*.

If anyone should presume to profess the knowledge of alchemy, and if you wish to discern whether a true discipline of this kind is obtainable at his hands, you will have a dependable indication of such an important matter from the lord of the ascendent and the Moon. For if both are pure and free from the malefics, it testifies that it is true and not without benefit. The corruption of these insinuates that he is false and lying. And if it is concerning gold, the testimonies of the Sun should be sought; for silver we consult the Moon.²⁷

The reverential language of the latter passage would seem to indicate that the translator or reviser holds the practise of alchemy in high respect, were it not typical of Hugo’s high-flown style.

The Latin translation of Sahl’s book on catarchic astrology is called *De electionibus* and is by an anonymous translator, different from Hermann and Hugo:

And if you wish to practise alchemy or any work that you wish to keep repeating, let this be done when the Moon is in bicorporeal signs, free from malefics, and let the ascendent be similarly ⟨placed⟩. Then fix it. And if your work is in gold, strengthen the Sun and fix it at the beginning of the work.²⁸

From these translations of Arabic texts derive later Latin astrological works which mention alchemy. For example Leopold of Austria’s *Compilacio de scientia astrorum* (late thirteenth century) clearly derives from the *Liber novem iudicum* version of Sahl’s book on interrogations,²⁹ whilst Roger of Hereford’s *Liber de quatuor partibus astronomie* (late twelfth century) quotes Sahl’s *De electionibus* verbatim.³⁰ But we may end with a verbose late thirteenth-century text on judicial astrology which is probably the *Consilia* of Bartholomew of Parma.³¹ This pads out Sahl’s skimpy passage on assaying the alchemist, and applies the method to *any* practical experiment:

The question of whether any experiment is true or false:

If one is asked of any experiment in the art of necromancy, medicine or alchemy, whether it is true or not, look at the ascendent and its lord and the Moon for the querent, (and) the eighth and tenth for the experiment, writing or instruction to be made (?). For if each planet is well positioned in a cardine or nearly—e.g. in a succedent near to the cardine—and free from malefics, while being joined to a benefic with a good aspect, and stays for a long time in such a position and is improving its situation and not making it worse by the removal of a good position or because it is soon joining the malefics which always and everywhere signify evil and destroy the good, this is a sign that the experiment is true and hence gain can follow; and vice versa. And one should know that the Sun gives a testimony concerning gold and everything of great value, but the Moon concerning silver and everything of small and medium value.³²

NOTES AND REFERENCES

1. Amongst the vast literature the most informative recent works are F. Sezgin, *Geschichte des arabischen Schrifttums*, IV (Leiden, 1971), pp. 1–299; M. Ullmann, *Die Natur und Geheimwissenschaften im Islam* (Leiden, 1972), pp. 144–270; *idem*, “al-kimiya” in *Encyclopedia of Islam*, second edition, V (Leiden, 1986), pp. 110–15; *idem*, “al-kimiya” in *Wörterbuch der klassischen arabischen Sprache*, I– (Wiesbaden, 1970–); and several articles in Z. R. W. M. von Martels, *Alchemy Revisited* (Leiden, 1990). I am very grateful to Dr. F. W. Zimmermann and Hillary Wiesner for advice on Arabic texts.
2. See F. Sezgin, *Geschichte des arabischen Schrifttums*, VII (Leiden, 1979), pp. 111–13 (work no. 2) and D. Pingree, “‘Umar ibn al-Farrukhān al-Tabarī” in *Dictionary of Scientific Biography*, ed. C. C. Gillispie, XIII (New York, 1976), pp. 538–9. The latest date mentioned in a work by ‘Umar is 13 July 812.
3. For the last work see C. E. Bosworth, “The Persian Impact on Arabic Literature”, in A. F. L. Beeston *et al.* (eds.), *The Cambridge History of Arabic Literature, I: Arabic Literature to the End of the Umayyad Period* (Cambridge, 1983), pp. 483–96 (491).
4. The translation is based on MS Princeton, Yahuda 4007, fol. 38v. Other manuscripts seen by me are Berlin, Deutsche Staatsbibliothek, Ahlwardt 5879 and Escorial, Real Biblioteca, ar. 922. For further manuscripts see Sezgin, *op. cit.* (2), p. 112, no. 2, and Pingree, *op. cit.* (2), p. 538.

التاسع والسبعون في معرفة امر الكيمياء

إذا أردت أن تعلم عن رجل هل يعلم علم الكيمياء أم لا فاجعل الطالع وربه للسائل والسابع وربه للمستول عنه وبيت علم الرجل التاسع من البرج السابع فانظر امسعود هو أم منحوس مشرق هو أم مغرب ساقط هو أم في وتد أم زايل عن الودت وهل ينظر صاحب السابع فان كان ينظره وكان مسعودا دل على أن في يده علما صحيحا ولا سيما ان كان النظر من تثليث او تسديس وكان بينهما اتصال وقبول فان كان النظر من تربع او مقابلة دل على أن في يده شيا قويا وانه يدركه بطلب وتعب ونصب وذلك اذا كانت السعود ناظرة فان كانت النحوس ناظرة دل على انه تعب فيه ولم يدرك منه شيا

5. Note however that Abū Ma'shar asserts that he translated “books of the Greeks, the Syrians, the Persians and the Babylonians” (see Sezgin, *op. cit.* [2], p. 111), and certain manuscripts call the questions “qayṣarānī” (*i.e.*, Byzantine?).
6. See D. Pingree, “Astrology”, in M. J. L. Young *et al.* (eds.), *The Cambridge History of Arabic Literature II: Religion, Learning and Science in the 'Abbasid Period* (Cambridge, 1990), pp. 290–300 (295).
7. Ullmann, “al-kimiya”, in *Encyclopedia of Islam*, *op. cit.* (1).
8. C. S. F. Burnett, “A Group of Arabic-Latin Translators Working in Northern Spain in the Mid-12th Century”, *Journal of the Royal Asiatic Society* (1977), 62–108.
9. C. H. Haskins, *Studies in the History of Mediaeval Science*, second edition (Cambridge, Mass. 1927), pp. 70–1, and

- D. Pingree, "Classical and Byzantine Astrology in Sassanian Persia", *Dumbarton Oaks Papers*, 43 (1989), 227–39 (227–8).
10. MS Oxford, Bodleian Library, Bodley 430, fol. 64v: "Incipit liber Aomaris Abin Farban Tyberiadis, Hugon Satelliensis translatio, antiquorum voluminibus excerptus, questionum multimodas species, tamquam earum prout existimatio docet principale exordium, absolvens. Hic autem .ccxxviii. capitulis est distinctus."
 11. Ibid. fol. 119r-v: "Aomar, De alkimia: Alkimie vero disciplina[m] utrum apud quempiam firma atque certa constiterit habita questione, oriens eiusque dominum querenti, septimum cum eius domino ei de quo ambigitur, constitue. Nonum enim signum a septimo eius demonstrat scienciam. felix potius sit an corruptum, orientale sive occidentale, vel cadens, in cardine quidem vel a cardine reductum, utrum etiam septimi dominum respiciant. Si igitur septimi dominum respiciant et ipsi fortunati, peritum annunt, de trigono precipue aut exagono, dum eorum applicacio recepcione non careat. De tetragono autem aut opposicione, difficulter et post multa laboris incommoda hoc assecutum fuisse testatur—si inquam fortunatarum non absit respectus. Nam si infortunia (sinfortunia MS) respiciant, et si cum difficultate studuerit, labor cessit inefficax."
 12. L. Stavenhagen in *A Testament of Alchemy* (Hanover, New Hampshire, 1974), p. 52, disputes the evidence of the preface for Robert's authorship, but R. Lemay brings forward arguments to support the attribution in "L'Authenticité de la préface de Robert de Chester à sa traduction du *Morienus* (1144)", *Chrysopaia*, 4 (1990).
 13. J. Ruska, "Zwei Bücher *De compositione Alchemie* und ihre Vorreden", *Archiv für Geschichte der Mathematik, der Naturwissenschaft und der Technik*, 2 (1928), 28–37: "Quoniam quid sit alchymia nondum vestra cognovit Latinitas, in presenti sermone elucidabo . . . Hermes vero philosophus, et alii qui post ipsum fuere, hoc vocabulum diffiniunt: alchymia est substantia corporea ex uno et per unum composita preciosiora ad invicem per cognationem et effectum conjungens et eadem naturali commixtione ingeniis melioribus naturaliter convertens." The comparatives in the Latin may reflect the Arabic formation of the superlative.
 14. "Les origines de la *Mappae Clavicula*", *Archives d'histoire doctrinale et littéraire du moyen âge*, 54 (1987), 7–58. For further evidence of early knowledge of alchemical techniques in Europe see A. Wallert, "Alchemy and Mediaeval Art Technology" in *Alchemy Revisited*, *op. cit.* (1), pp. 154–61; cf. p. 155: "It now appears that when the theory arrived the practice among craftsmen was already known."
 15. Pseudo-Apollonios von Tyana, *Buch über das Geheimnis der Schöpfung und die Darstellung der Natur*, edited by U. Weisser (Aleppo, 1979); see pp. 29–30. Hugo's translation, called *De secretis naturae*, survives in MS Paris, Bibliothèque nationale, lat. 13951 and a Renaissance copy of it, *ibid.*, lat. 13952.
 16. Sezgin, *op. cit.* (2), pp. 125–8.
 17. Sahl's book on interrogations is part of a work which goes under various titles, including *Nawādir al-qaḍā'* (Sezgin, *op. cit.* [2], pp. 125–6). I have used MS Escorial 919, fol. 34r.

وان ستلت عن باب كيمياء احق هو ام باطل فانظر الى صاحب الطالع والقمر فان سلما من
النحوس فامره كائن حق وان نحسا فالامر باطل فان كان ذهباً فاستشهد الشمس وان كان
فضة فالقمر

18. Literally: "door" or "chapter".
19. Literally: "a truth".
20. This work has been edited with its medieval Latin translation and translated into English by C. M. Crofts, "*Kitāb al-ikhtiyārāt 'alā l-buyūt al-īḥnā' 'aṣār* by Sahl ibn Bishr al-Isrā'īlī with its Latin Translation *De Electionibus*," Ph.D dissertation, Glasgow University, 1985. I am very grateful to Carol Crofts for allowing me to see a copy of this thesis.
21. MS Beirut, Bibliothèque orientale, 199, p. 635; Crofts ed., p. 9.

وان اردت علاج الكيمياء وعملا اردت معاودته فليكن ذلك والقمر في بروج ذوات جسيمين
نقيا من النحوس وليكن الطالع كذلك واصلحه ان كان العلاج في الذهب فقوي الشمس
واصلحها عند ابتدا ذلك

22. Literally: "the curing of alchemy".

23. MS Escorial, Real Biblioteca, ar. 919, fol. 38r, ed. Crofts, p. 9.

وان اردت عمل الكيمياء وعلاجها وما يعود الى يد صانعه مرارا فليكن ذلك والقمر في
المجسدة نقيا من النحوس وليكن الطالع كذلك واصلحه وان كان العلاج في الذهب فمن
الشمس واصلحه عند ابتدائك

24. Literally: "the work of alchemy".
 25. Literally: "its curing".
 26. MS Oxford, Bodleian Library, Bodley 430, fol. 119r: "Zahel, De alkimia: De alkimia vero veritatem investigantes orientis dominum atque lunam consulimus, qui si infortuniis mundi sunt et liberi, veritatis est indicium. Contra, si corrupti. Igitur si auri est, solem accipimus testem; si argenti, lunam."
 27. MS Vienna, Österreichische Nationalbibliothek, 2428, fol. 130r: "Zahel, De alkimia: Scienciam alkimie, si quis presumat confiteri vole[n]sque discernere utrum apud ipsum vera huiusmodi habeatur disciplina, ab orientis domino et luna certum tante rei habes indicium. Si enim uterque infortuniis mundus et liber extiterit, verum esse non sine emolumento testatur. Horum corruptio, falsum insinuat et mendacem. Que si de auro fuerit, solis testimonia requirenda, pro argento quidem, lunam consulimus."
 28. Croft's edition, *op. cit.* (20), p. 48: "Et si volueris operari alchimiam (v.l. alquimiam) vel opus quod volueris iterare, fiat hoc et Luna in signis communibus, munda a malis, et sit ascendens similiter. Apta ergo eum. Et si fuerit opus tuum in auro, conforta Solem et apta eum in inceptioe eius."
 29. MS Vatican City, Biblioteca apostolica, Vat. Pal.lat. 1354, fol. 224v: "De alchimia utrum quis sciat per orientis dominum et lunam scias. Si enim mundi sint ab infortuniis, ipse scit, horum corruptio mendacem significat, et pro auro fortunetur sol, pro argento luna."
 30. Oxford, Bodleian Library, Digby 149, fol. 199ra.
 31. This attribution is suggested in my "Michael Scot and the Transmission of Scientific Culture from Toledo to * Bologna via the Court of Frederick II Hohenstaufen," *Proceedings of the Conference 'Frédéric II et les savoirs', Erice September, 1990*, forthcoming.
 32. MS Kues, Bibliothek des Hospitals, 209, fol. 22v: "Questio pro aliquo experimento utrum sit verum vel falsum: Si queratur de aliquo experimento artis nigromantie vel medicine vel alchimie utrum sit verum vel non, vide ascendentem et dominum eius ac Lunam pro querente, octavum et decimum pro experimento, scripto et ordinato fieri. Si enim uterque planeta fuerit bene dispositus in angulo vel quasi ut in succedente prope angulum liberque a malis cui fortuna iungatur aliquo bono aspectu diu stans in tali dispositione et meliorans conditionem, et non peiorando per separationem bone dispositionis vel quod cito iungeretur malis que semper et ubique significant malum et bonum destruit, signum est quod experimentum est verum et inde potest consequi profectus et econtrario. Et est sciendum quod Sol reddit testimonium de auro et de omni re magni valoris, Luna vero de argento et de omni re parvi et mediocris valoris."

AN APOCRYPHAL LETTER FROM THE ARABIC PHILOSOPHER
AL-KINDI TO THEODORE, FREDERICK II'S ASTROLOGER,
CONCERNING GOG AND MAGOG, THE ENCLOSED NATIONS,
AND THE SCOURGE OF THE MONGOLS

Immediately following John of Plano Carpini's History of the Mongols in MS 5 12 of the Österreichische Nationalbibliothek in Vienna, and inserted among the letters of the papal legate Albert of Beham in Clm. 2574b of the Bayerische Staatsbibliothek in Munich, is a letter in which an Arabic philosopher is apparently warning a Christian king of the impending Mongol invasion. This letter, which I shall refer to, from its incipit, as *Epistola Prudenti viro*, was signaled by Sudhoff in 1915,¹ but has remained unstudied and unedited. It merits attention, however, as a footnote to the study of the impact on European consciousness of the personality of Frederick II Hohenstaufen and the threat of the Mongols,² and also as a further document in the field of the Alexander Romance.³

The letter is purportedly addressed by "al-Kindī, the priest and philosopher of the caliph of Baghdad," to "Theodore, the philosopher of the most invincible emperor."⁴ The author begins by saying how he discovered in his travels many books of prophecy, from which he has excerpted the most relevant facts in this letter. These show how

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¹K. Sudhoff, "Ein diätetischer Brief an Kaiser Friedrich II von seinem Hofphilosophen Magister Theodorus," *Archiv für Geschichte der Medizin* 9 (1915) 1-9; see 8-9. Sudhoff prints the first few sentences of the letter, from Marburg, Universitätsbibliothek MS 9.

²The letter is not mentioned in the standard biographies of Frederick II or in G. A. Bezzola, *Die Mongolen in abendländischer Sicht (1220-1270)* (Bern 1974).

³The valuable survey of the ramifications of the Alexander Romance by D. J. A. Ross, *Alexander Historiatus* (London 1963), does not include this letter.

⁴An edition of the letter follows this article.

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Alexander the Great, with the help of God, enclosed Gog and Magog and the twenty-two nations who make up the Tartar (or Mongol)⁵ peoples, between two mountains and shut them behind the Caspian Gates. A circumstantial account is given of the characteristics of each of these nations, their kings, and, on occasion, the beasts that dwell among them. Now, according to the predictions, the time of the fulfilment of the prophecy that Gog and Magog will escape, has arrived. A most wicked fox has burrowed into the mountainside and has shown the enclosed nations a means of breaking through the Gates. Even now these ruthless people, in three armored divisions, are beginning to maraud over the face of the earth. God has condoned this invasion as a punishment for the iniquities of his people.

From a literary point of view most of the elements in this letter are familiar. There is clearly nothing Arabic about its contents. The story of Alexander and the Enclosed Nations is told in most versions of the Alexander Romance⁶ and was taken up in the extremely influential seventh-century Apocalypse of the ps.-Methodius.⁷ Here we read how Alexander, with the help of God, enclosed the descendants of Japheth between two mountains called "the Breasts of the North," behind gates made of "absinth," which could in no way be opened. But at the last day, says the ps.-Methodius, quoting Revelation,⁸ Gog and Magog will escape into the land of Israel and bring the world to an end. The ps.-Methodius merely lists the twenty-two (twenty-three) kings (including Gog and Magog)⁹ who descended from Japheth. The *Epistola Prudenti viro* takes the description of the races ruled by these kings and the beasts that dwell among them from another source—namely, the accounts of marvelous races and strange beasts which can be found in Pliny, Solinus, Augustine, and Isidore.¹⁰ These accounts, too, had become incorporated and were elaborated in several versions of the Alexander Romance, in which we read how Alexander encountered the mythical creatures in his journeys in the East.¹¹ The invective in the *Epistola* against the

⁵ *Tartari* was the usual term for the Mongols used in the West in the Middle Ages; cf. Simon of St. Quentin, *Historia Tartarorum*: "Ipsi quoque Tartari proprie loquendo se vocant Mongli sive Mongol" (cited by P. Meyvaert in "An Unknown Letter of Hulagu, Il-Khan of Persia, to King Louis IX of France," *Viator* 11 (1980) 245–259; see 253 n. 41).

⁶ Ross (n. 3 above) 34–35.

⁷ Edition of the Latin text by E. Sackur in *Sibyllinische Texte und Forschungen* (Halle 1898) 1–96, and of the Greek text by Anastasios Lolos in *Die Apokalypse des Ps.-Methodios* (Meisenheim 1976). For a recent bibliography see Paul J. Alexander, "The Medieval Legend of the Last Roman Emperor," *Journal of the Warburg and Courtauld Institutes* 41 (1978) 1–15. There is a much shorter account of the same episode in the prophecy of the Tiburtine Sibyl (Sackur 188–196). For a thorough discussion of the whole episode see A. R. Anderson, *Alexander's Gate. Gog and Magog and the Enclosed Nations* (Cambridge, Mass. 1932); see also J. A. Boyle, "Alexander and the Mongols," *Journal of the Royal Asiatic Society* (1979) 123–136.

⁸ Rev. 20.8; see also Ezekiel 38–39.

⁹ The ps.-Methodius gives a list of twenty-three names (including Gog and Magog), but describes them as *viginti duo reges* (see table below).

¹⁰ See *Marvels of the East*, ed. M. R. James (Oxford 1929), R. Wittkower, "Marvels of the East," *Journal of the Warburg and Courtauld Institutes* 5 (1942) 159–197, and F. Pfister, *Kleine Schriften zum Alexanderroman* (Meisenheim 1976) 120–142, 380–393.

¹¹ Ross (n. 3 above) 32–33.

impiety of Christians also is not particularly original, and is reminiscent of the tone adopted by the Archpoet and other satirical writers in the twelfth century.

The interest of this letter lies in its application of these traditional literary elements to a specific historical situation. As is well known, the Mongols, with extraordinary rapidity during the first three decades of the thirteenth century, had forced into submission or laid waste the whole of Central Asia from the Yellow Sea to the Black Sea, and by 1240 were posing a threat to Muslims and Christians equally.¹² Some Christians were encouraged by the reports that among the Mongols there were Nestorian Christians, including the Prester John who had promised to rescue Christendom from Islam. But they were soon disillusioned by the merciless treatment meted out by the invaders to Hungary and Southern Poland in 1241. The Arabs fared no better, and the 'Abbasid caliphate in Baghdad finally came to an end with the Mongol capture of Baghdad in 1258. Only in 1260, when the Mamluq army of Egypt defeated a battalion of the Mongols at 'Ain Jālūt, was the tide of advance stemmed, and Europe and the Arabic world could breathe freely again.

Many of the literary sources used in the *Epistola Prudenti viro* are echoed in chronicles of the time. Popular etymology derived the name Mongoli from Magogoli ("descendants of Magog"),¹³ and Roger Bacon does not hesitate to identify the Mongol invasion as the fulfilment of the prophecy concerning the escape of Gog and Magog from behind the Caspian Gates:

Aethicus the philosopher in his *Cosmography* expressly says that the race shut up within the Caspian Gates will rush out into the world, meet the Antichrist and call him "God of gods." Without doubt, the Tartars were within these gates, and issued forth. We know for certain that the Gates are already broken, for Franciscans whom Louis, the present king of France, sent forth, passed through the midst of these Gates and went far on into the mountains along with the Tartars who had been shut up there.¹⁴

There were rumors, too, that the Mongols actually had "dog-faces," and were thus identifiable with at least one of the fabulous races listed in the *Epistola*.¹⁵ Finally, Matthew Paris corroborates that the Mongols were regarded as the scourge of the Lord for the sins of Christian people.¹⁶

¹²For a general account of the Mongol invasion of Europe see James Chambers, *The Devil's Horsemen* (London 1979); details may be found in S. Runciman, *A History of the Crusades* 3 (Cambridge 1954) 237ff., D. Sinor, *Inner Asia and its Contacts with Medieval Europe* (London 1977), and P. Jackson, "The Crisis in the Holy Land in 1260," *English Historical Review* 95 (1980) 481-513.

¹³Chambers 104, citing Ricoldo of Monte Croce.

¹⁴R. Bacon, *Opus maius*, ed. J. H. Bridges, 1 (Oxford 1897) 268-269 (trans. B. McGinn, in *Visions of the End* [New York 1979] 156). Bacon is referring to the expedition of William of Rubruck, who travelled through the region on his way back from the Great Khan Möngke's court in November 1254; see his *Itinerarium*, ed. A. Van den Wyngaert, *Sinica franciscana* 1 (1929) 318-319; trans. C. Dawson, *The Mongol Mission* (London 1955; repr. 1979) 211.

¹⁵See Chambers (n. 12 above) 104, citing Ivo of Narbonne.

¹⁶See Davide Bigalli, *I Tartari e l'Apocalisse* (Florence 1971) 24, citing Matthew Paris, *Chronica maiora* 6.78: "Credimus ipsos esse gladium furoris Domini propter peccata populi Christiani."

But was the *Epistola Prudenti viro* a mere academic exercise inspired by the contemporary atmosphere, or was it circulated and passed off as a genuine letter, and with a political purpose? Here the superscript might give a clue. The attribution to al-Kindī is patently false, in that Jaʿqūb ibn Ishāq al-Kindī died soon after A. D. 870.¹⁷ To Europeans, however, al-Kindī would have been one of the most familiar Arabic names, if not the best known, for there are some thirty works in Latin, mostly translated or composed in the twelfth century, attributed to al-Kindī.¹⁸ In that he is described by one twelfth-century Latin writer as “the most reliable and true judge amongst astrologers,”¹⁹ he must have had a reputation for being an accurate judge and predictor of political events. Indeed, we do have a genuine work of al-Kindī forecasting the end of the rule of the Arabs. In this short text the author counts up the numerical equivalents of the nonrepeating letters standing at the beginning of certain *sūras* of the Koran and discovers that their sum—693—corresponds with the length of the rule of the Arabs as predicted by astrological calculations.²⁰ This genuine letter was known in the West through being incorporated in the astrological work *De magnis coniunctionibus* (“About Great [astrological] Conjunctions”) by Abū Maʿshar (Albumasar).²¹ Roger Bacon, referring to Abū Maʿshar’s text, compares the figure 693 with the “number of the Beast” in Revelation (= 666 years).²² In fact, al-Kindī’s predictions were only thirty-six years off the mark when the Mongols sacked Baghdad in 1258. It is possible, too, that this genuine letter of al-Kindī was the same as the Arabic prophecy which came to light during the siege of Damietta in 1221, when the Christians seemed on the point of crushing the infidels. This letter was de-

¹⁷For accounts of al-Kindī see *The Fihrist of al-Nadīm*, trans. Bayard Dodge (New York 1970) 615–626, and M. Ullmann, *Die Natur- und Geheimpwissenschaften im Islam* (Leiden 1972) 313–314.

¹⁸Some of these works are listed in F. J. Carmody, *Arabic Astronomical and Astrological Sciences in Latin Translation* (Berkeley 1955) 78–85, and L. Thorndike and P. Kibre, *Incipits of Mediaeval Scientific Writings in Latin*, ed. 2 (London 1963). I am in the process of compiling a catalog of the Latin works attributed to al-Kindī.

¹⁹“Commodissimum et veracissimum inter astrologos iudicem”; from the preface to the translation of a work of al-Kindī made by Robert of Ketton and addressed to Hermann of Carinthia; preface edited in C. H. Haskins, *Studies in the History of Mediaeval Science*, ed. 2 (Cambridge, Mass. 1927) 121–122.

²⁰Al-Kindī’s *risāla fī mulk al-ʿarab wa kamīyyatibī* (“letter on the rule of the Arabs and its duration”) is edited by Otto Loth, “Al-Kindī als Astrolog,” in *Morgenländische Forschungen: Festschrift H. L. Fleischer* (Leipzig 1875) 261–309, and discussed by Richard Walzer, *Greek into Arabic* (Oxford 1962) 199–200.

²¹Abū Maʿshar, *De magnis coniunctionibus*, translated by John of Seville, is found in several manuscripts, including Paris BN lat. 16204, pp. 183–302, and was printed by Erhard Rardolt (Augsburg 1489); see D. Pingree, “Abū Maʿshar,” in *Dictionary of Scientific Biography* 1, ed. C. C. Gillispie (New York 1970) 36. For the history of astrological predictions of political and religious “revolutions” (this very word betrays its astrological origins), for which al-Kindī and Abū Maʿshar were the principal authorities in the West, see John D. North, “Astrology and the Fortunes of Churches,” *Centaurus* 24 (1980) 181–211. Al-Kindī’s letter is also summarized in a magical work known in Arabic, Spanish (fragment), and Latin—*Picatrix* (ed. H. Ritter, *Pseudo-Magriti, Das Ziel des Weisen* [Leipzig 1933] 176; German translation, H. Ritter and M. Plessner, *Picatrix* [London 1962] 184).

²²Bacon, ed. Bridges (n. 14 above) 1.266; see Bigalli (n. 16 above) 186, and McGinn (n. 14 above) 155.

scribed by Jacques de Vitry as written by "a certain astrologer whom the Saracens regard as a great prophet."²³ In any case al-Kindī's reputation would have been sufficient to give credence to the reliability of the warning in the *Epistola Prudenti viro*.

The recipient of the letter, on the contrary, is a person who might well have been alive when the letter was written. He may be identified with Theodore of Antioch, * who appears to have succeeded Michael Scot as court astrologer to Frederick II Hohenstaufen, at Palermo in 1238, who cast a horoscope for the emperor at the siege of Padua in 1239, and who died in (or just before) 1250.²⁴ Perhaps a Jacobite Christian himself, he is said to have studied at Mosul and Baghdad, and was enough of an Arabist to have been dispatched by the emperor on diplomatic missions to Arabic rulers. He translated a work on falconry which was revised by his imperial patron, and he wrote a short work on diet, which is found with the *Epistola Prudenti viro* in a fourteenth-century manuscript.²⁵

There is also a striking similarity between the superscript of our letter and that of another work allegedly sent from an Arabic potentate to Palermo, and involving Theodore. In a fourteenth-century manuscript of Italian provenance in the British Library we find on the first folio a work introduced as "The book of the Nine Judges, which the Sultan of Babilonia sent to the Emperor Frederick at the same time as the Great Caliph sent Master Theodore to the same Emperor Frederick."²⁶ This *Liber novem iudicum* is, in fact, a Latin compilation of nine astrological works translated from Arabic, at least three of which were translated separately in Northern Spain towards the middle of the twelfth century.²⁷ It was used by Frederick II's astrologer Michael Scot in his compendium *Liber introductorius*. Moreover, it is occasionally ascribed to al-Kindī, in that the first chapter is taken from a genuine work by al-Kindī on the Judgments of the Stars.²⁸

Like the protocol of the *Epistola Prudenti viro*, that of the *Liber novem iudicum* has been contrived to suggest that a work of astrology was sent from an Arabic court to

²³"Quidam astrologus quem prophetam magnum Sarracenis reputant"; cited by Bigalli (n. 16 above) 188. For the various prophecies that were current at the siege of Damietta see Bezzola (n. 2 above) 13–20.

²⁴See Haskins (n. 19 above) 246–248.

²⁵This is the letter beginning *Celsitudo vestra*, edited by Sudhoff (n. 1 above).

²⁶"Liber novem iudicum quem misit Soldanus Babilonie Imperatori Federico tempore quo et magus Chalif misit magistrum Theodorum eidem Imperatori Federico"; London, BL Royal 12 G. VIII, fol. 1. See *Catalogue of Western MSS in the Old Royal and King's Collections*, G. F. Warner and J. P. Gilson (London 1921) 2.72, and Haskins (n. 19 above) 246. The Sultan of "Babilonia" is presumably one of the sultans of Egypt (al-Kāmil, d. 1238, or al-Šāliḥ Ayyūb, d. 1249) with whom Frederick had close relations; see E. Blochet, "Les relations diplomatiques des Hohenstaufen avec les Sultans d'Égypte," *Revue historique* 80 (1902) 51–64, but the "Chalif" would be the Abbasid religious leader in Baghdad.

²⁷See C. S. F. Burnett, "A Group of Arabic-Latin Translators Working in Northern Spain in the Mid-12th Century," *Journal of the Royal Asiatic Society* (1977) 62–108, esp. 66–67. I am at present investigating the Arabic sources for the individual works of *iudicia* which make up the *Liber novem iudicum*.

²⁸E.g. Vienna, ÖNB 5517 (A.D. 1489): "Liber introductorius novem iudicum quem compilavit Al-kindus." In lists of the nine judges at the head of most of the other manuscripts, al-Kindī's name appears first.

Frederick II. Moreover, if one is to believe that the caliph himself had sent Theodore to the Christian emperor, it is all the more plausible that Theodore should receive a letter from the caliph's philosopher. But the question remains as to the purpose of this fabrication. Had Frederick II anything to do with it?

Frederick's interest in Arabic learning and religion was notorious. He sent a questionnaire on geometry and algebra to al-Kāmil, sultan of Egypt, and was moved by academic curiosity to visit the Islamic holy places and hear the muezzin in Jerusalem. His friendship with the sultans of Egypt and other Arabic rulers placed him under suspicion, and the fifth crusade was jeopardized by his dubious dealings with his Arabic counterparts. To the Mongols, however, Frederick was consistently opposed. He took it upon himself to inaugurate a crusade against them which his son Conrad would lead. In a letter sent by the emperor to the monarchs of Europe in 1241 (just after the siege of Faenza, during which Theodore and the emperor were working on their translation of an Arabic work on falconry), he warns them of the danger of the Mongols and recommends concerted action in the form of a crusade.²⁹ It is noticeable that the tone of the letter is similar to that of the *Epistola Prudenti viro*. The Tartars resemble beasts in their nature, just as they are described as monstrous beings in the *Epistola*. Moreover, they have been sent as the judgment of God to punish and correct his people.³⁰

Frederick's enemies in Europe received this letter with great skepticism. It was even thought by some, according to Matthew Paris, that the emperor had deliberately engineered the Mongol threat as a move in his plan to overthrow Christendom. His letter was a mere cover-up.³¹ Can we see, then, the *Epistola Prudenti viro* as a propaganda exercise written by a partisan of Frederick II and designed to give him credibility in his campaign against the Mongols? The letter would suggest that Frederick's warnings were not only supported by the prophecies of the ps.-Methodius and their derivatives, which were well known at a popular level of society, but were also

²⁹The letter was reproduced in Matthew Paris, *Chronica maiora* 4, ed. Luard, Rolls Series (London 1877) 112–119.

³⁰"Haec enim gens est feralis et exlex, humanitatis ignara" (ibid. 115); "Egressa enim dudum ex ultimis mundi finibus . . . gens barbarae nationis et vitae . . . Tartari nuncupata, non absque praeviso Dei iudicio ad sui populi correptionem et correctionem" (ibid. 112).

³¹"Fuerunt namque qui dicerent, imperatorem hanc Tartarorum pestem sponte fuisse machinatum, et per hanc elegantem epistolam scelus tam nepharium nequiter palliasse, et ad totius mundi monarchiam, in fidei Christianae subversionem, ad instar Luciferi vel Antichristi, hiatu protervo conspirare" (ibid. 119). A further allusion to Frederick's having called in the Mongols is found in the *Chronique rimée de Philippe Mouskes évêque de Tournay au treizième siècle*, ed. F. A. F. Thomas, baron de Reiffenberg, 2 (Brussels 1838) 681; lines 30959 and 30967–30970:

Des Tartares revint novière . . .
Et fu par le monde retrait
Que l'emperères par son trait,
Flédérés, les ot fait venir
Pour crestienté ahounir.

corroborated by the Arabs, who were noted for their skill in forecasting future events. Moreover, there is one detail so far not discussed which could support this hypothesis.

The letter tells how, when many kinds of beasts were shut up together with Gog and Magog and the twenty-two nations, the foxes were left outside. As we have seen, the most wicked of this race burrowed its way into the mountainside and became the agent whereby the enclosed nations were finally allowed to escape. In no other version of the story, as far as I know, is the fox (*vulpes*) or the clan of foxes mentioned. It is very tempting to imagine that, in the popular mind, the word *vulpes* would be associated with *Guelf*. The Guelfs were tireless enemies of Frederick II, who tended to side with the Ghibelline party in his campaign in the north of Italy. Moreover, both popes Gregory IX and Innocent IV supported the Guelf faction, and repeatedly excommunicated or threatened to depose the emperor.³² If Matthew Paris's chronicle implies that Frederick's enemies considered that the emperor had deliberately released the Mongols from behind the Caspian Gates to further his own ambitions, is it not possible that partisans of Frederick might have rejoined by trying to encourage the belief that a Guelf—or perhaps even the pope himself—had been responsible?³³

* * *

The manuscripts in which the *Epistola Prudenti viro* occurs corroborate that from an early date it was associated with Frederick II's circle. One copy came into the hands of one of Frederick's most bitter opponents. This was Albert of Beham who was a staunch ally of Pope Innocent IV.³⁴ As papal legate he repeatedly tried to stir up the nobles and bishops of Bavaria against the emperor, and the antagonism he met from Frederick's supporters resulted in considerable turbulence in his career. Clm. 2574b, an unusually early paper manuscript, is the register of the letters he sent between 1241 and 1255, many of them written when he was with the pope in Lyons.³⁵ Interspersed among the letters, and in the same hand (presumably that of Albert of Beham or his secretary), is an assortment of miscellaneous information which must reflect the interests of Albert at the time he was writing the letters. This includes not only his personal expenditure and income and his will, but also accounts of the value of the silver and gold mark, a list of bishoprics, a mnemonic for remembering the dates of church festivals, advice to princes (the ps.-Aristotelian *Secretum secretorum*), popular medical and astrological lore, and descriptions of marvels. On folios 84v–85v are four poems glorying over the defeat of Frederick at Parma in 1248. The em-

³²See Thomas C. Van Cleve, *The Emperor Frederick II of Hohenstaufen* (Oxford 1972) 466.

³³Unfortunately the proposed etymology does not find support in Robert Davidsohn's *Forschungen zur Geschichte von Florenz* (Berlin 1908) 30–32. Here, however, only favorable etymologies of the name are given (*Guelfi* = *guerra leonum fortis* or *gero fidem*).

³⁴See Van Cleve (n. 32 above) 435–436.

³⁵The letters are published in C. Höfler, *Albert von Beham und Regesten Pabst Innocenz IV*, Bibliothek des Literarischen Vereins Stuttgart 16 (Stuttgart 1847) 51–158.

peror is portrayed as an ally of astrologers, demons, and the magical arts.³⁶ A few folios before these poems there occurs the *Epistola Prudenti viro*. Albert was probably struck by the apparent connection of the letter with the astrologer al-Kindī, which was a further proof of Frederick's involvement in the occult and the magical.

The occurrence of the *Epistola Prudenti viro* among Albert's correspondence also gives some idea of when the letter was circulating, for it directly precedes the letters of 1246, which, in turn, are followed by the poems on the victory at Parma in 1248.

In Marburg MS 9, as we have seen, the letter is followed by a treatise on diet written by Theodore himself and addressed to Frederick II. A document in the same manuscript describes a medicine made up for Pope Gregory; and another work, giving rules for preserving one's health on crusade in the Holy Land, is addressed once again to Frederick II (this work apparently occurs in no other manuscript).³⁷ Two translations of ps.-Aristotelian works commissioned by Frederick II's son Manfred are also in the Marburg manuscript, while Innocent IV, Gregory IX's successor, is the recipient of a medical work in Paris BN lat. 6978, which also includes our letter.

There can be no doubt, therefore, that the *Epistola Prudenti viro* was associated with works from either the imperial court or the papal court of Gregory IX and Innocent IV. Moreover, all three manuscripts so far discussed contain a similar range of texts. They all include the same recension³⁸ of Philip of Tripoli's translation of the *Secretum secretorum*—the farrago of information on rulership, hygiene, astrology and physiognomy allegedly addressed by Aristotle to his imperial pupil Alexander the Great. Albert of Beham's manuscript would be a very early witness to the translation, and, if the translator Philip is identified, as Haskins thinks probable,³⁹ with the Philip mentioned in several documents as, variously, a canon, a prebendary, and a precentor of Tripoli between 1227 and 1259, then his attested presence with the pope in Lyons

³⁶Cf. *ibid.*:

Artes et auguria cessant Friderici
Sibi nolunt obsequi daemones amici (p. 126).

Amisit astrologos et magos et vates,
Beelzebub et Asharoth, privatos penates,
Tenebrarum consulens per quos potestates
Spreverat ecclesiam et mundi magnates (p. 128).

³⁷See description of manuscript (fol. 107v) below. The author of this work, Adam of Cremona, is apparently the subdean and precentor of the Cathedral of Cremona mentioned in the necrology as having died on 3 Nov. (year not given); see F. Novati, "L'Obituariio della Cattedrale di Cremona," *Archivio storico lombardo*, ser. 1.8 (1881) 497 (cited in R. Hausssherr, *Die Zeit der Staufer: Katalog der Ausstellung 1* [Stuttgart 1977] 651).

³⁸See F. Würrms, "Studien zu den deutschen und den lateinischen Prosafassungen des pseudo-aristotelischen 'Secretum secretorum,'" Ph.D. diss. (Hamburg 1970). All the manuscripts of the *Epistola Prudenti viro* give the *Secretum secretorum* in Würrms version I.1 (i.e., full version with the physiognomy at the end).

³⁹Haskins (n. 19 above) 137–140.

in 1247 at the same time as Albert might explain why his translation was copied out into Albert's letter-register.⁴⁰

The same hexameters on what to do and to avoid doing when the moon is in each of the signs of the Zodiac appear in the Marburg and the Paris manuscripts,⁴¹ while Albert of Beham gives a prose version of the same precepts.⁴² All three manuscripts give recipes for pills, and the Munich manuscript includes advice, purportedly addressed to Alexander the Great, on the astrologically propitious time to take the medicine.

The fourth manuscript which includes the *Epistola Prudenti viro*—that of the National Library in Vienna—also gives the same version of the *Secretum secretorum* as the other three manuscripts, but this time the letter concerning the scourge of the Mongols is attached to the historical account of the Mongols by the Franciscan missionary, John of Plano Carpini.

APPENDIX:

An edition of the *Epistola Prudenti viro*

The Manuscripts

In the following descriptions, attention is drawn particularly to the connections of the contents of the manuscripts with the Sicilian court of Frederick II and his son Manfred, and with the legend of Alexander the Great which was prevalent at that court. The astrological items are also described in detail.

C Munich, Bayerische Staatsbibliothek Clm. 2574b, s. xiii, paper.

This manuscript is the register of the letters of Albert of Beham, edited in full by Höfler (n. 35 above), and interspersed with other items including the following:

1. fol. 36v, (about the date of the excommunication of Frederick II and Eberhard, bishop of Salzburg)
2. fol. 42v, *Secretum secretorum editus ab Aristotele ad Alexandrum* (ed. R. Steele in *Opera hactenus inedita Rogeri Baconi* 5 (Oxford 1920))

⁴⁰The earliest clear use made of Philip of Tripoli's translation of the *Secretum secretorum* is Roger Bacon's commentary to that translation, written some time between 1243 and 1254 (see Haskins [n. 19 above] 138).

⁴¹Marburg MS 9, fol. 92 = Paris BN MS lat. 6978, fol. 1v.

⁴²The precepts in this *lunarium* are very commonly found; for the context see C. Weisser, "Des Krankheitslunar aus medizinhistorischer Sicht," *Sudhoffs Archiv* 65 (1981) 390–400.

3. <Astrological notes> fol. 72, Cum luna est in Ariete bonum est minuere sanguinem de brachio (a *lunarium* also occurring in Vienna, ÖNB 407 and Paris, BN lat. 7416B (see Thorndike and Kibre [n. 18 above] 314)); fol. 72v, Quacumque hora nascitur quis eadem naturaliter debet mori (a heading to a rota of the planets, signs of the Zodiac, compass directions and qualities, reproduced in W. Hübner, *Die Eigenschaften der Tierkreiszeichen in der Antike* (Wiesbaden 1982) 444); fol. 73, Cum volueris invenire signum tuum computa nomen tuum et nomen matris; fol. 73, Si scire volueris quis prius moriatur (the last three items are related to the "spheres of Apuleius or Pythagoras" discussed by E. Wickersheimer, "Figures medico-astrologiques des IXe, Xe et XIe siècles," *Janus* 19 (1914) 1–21); fol. 73, Leo, Sagittarius, Aries arescunt / Sunt orientalia et semper calescunt (verses, also in Vatican, Urb. lat. 505 and Paris, BN lat. 6584; Thorndike and Kibre 816)
4. fol. 73v, <Epistola Prudenti viro>
5. <Astrological notes> fol. 75v, Fortuna Arietis est in militia et in servicio aliorum, in hospitalitatibus, et in taberna et in macello (also in Vienna, ÖNB 407 and Munich, Clm. 615; Thorndike and Kibre 568); fol. 76, Qui est de Venere et Pisce, peribit de aqua.
6. fol. 90, <recipes for pills> Sumatur cum adiutorio dei de aqua palmarum; fol. 91, Cave tibi, O Alexander, ne assumas medicinam vel venam aperias nisi de licentia scientie astrorum . . . ; fol. 91, Cum volueris recipere medicinam laxativam, consistat luna in Scorpione vel in Libra vel in Pisce . . .
7. fol. 91v, Cisiioianus (a mnemonic for remembering the dates of church festivals, ed. Höfler xxiv)
8. fol. 98v, <money spent and received by Albert of Beham>
9. fol. 100, <the value of the gold and silver mark>
10. fol. 111v, <about various translators>
11. fol. 121v, <the beginning of the Apocalypse of ps.-Methodius, deleted> Incipiunt dicta Methodi episcopi Paternensis de regnis et regum et gentium et de novissimis temporibus certa demonstratio Christi.
12. fol. 134, <excerpt from Geoffrey of Monmouth, *Historia regum Britanniae*>

Bibliography: *Catalogus codicum latinorum Bibliothecae regiae Monacensis editio altera* 1. 1 (Munich 1892) 10–12.

V Vienna, Österreichische Nationalbibliothek 512, s.xiv, velum.

1. fol. 1, Relacio Johannis fratris minoris de Tartaris (John of Plano Carpini, *Historia Mongalorum*, edited by A. Van den Wyngaert, *Itinera et relationes Fratrum Minorum saeculi 13 et 14*, in *Sinica franciscana* 1 (1929)): Omnibus Christi fidelibus . . . quam alii qui sunt adversarii eorum.
2. fol. 13v, <Epistola Prudenti viro>
3. fol. 15v, <ps.-Aristotle, *Secretum secretorum*>
4. fols. 45v–138v, theological works.

Bibliography: *Tabulae codicum manu scriptorum . . . in bibliotheca Palatina Vindobonensi asservatorum* 1 (Vienna 1864) 86.

P Paris, Bibliothèque Nationale lat. 6978, s.xiv, velum.

The main texts are all in the same hand. Notes have been added in margins and between texts, in Latin and French in later hands.

1. fol. 1, Versus quatuor complexionum: Sanguineus: Natura pingues isti sunt atque iocantes (verses from the *Regimen sanitatis salernitanum*, ed. Salvatore de Renzi, 5 (Naples 1859) 40)
2. fol. 1, (recipes for pills in French) pillules confortatives; pillules confortatives et laxatives; poudre laxative; medicine potable.
3. fol. 1v, Hec sunt .xii. signa celi et effectus eorum dum luna transit per ea: Aries: Nil capiti facias Aries cum luna refulget (verses from the *Regimen sanitatis salernitanum*, ibid. 53)
4. fol. 2, Incipit liber de conservanda sanitate a magistro Iohanne de Tholeto: Scribitur ab Ysaac in libro viatici . . . et hec nobis de predictis sufficiant (Thorndike and Kibre 1413)
5. fol. 8, Ad omne viciū oculorum collirium.
6. fol. 9, Incipit regimentum sanitatis a magistro Arnaldo de Villanova (ed. *Opera omnia* (1504) fols. 79–84v): Prima pars vel consideratio . . . quantum poterit intromittatur.
7. fol. 22, Incipit epistula de accidentibus senectutis missa ad Innocentium Quartum quondam summum pontificem (an *abbreviatio* of Roger Bacon, *De retardandis senectutis accidentibus*; Thorndike and Kibre 463): Domine mundi qui ex nobili . . . ideo ad huius rei supplementum vestre clemencie et altitudini epistolam composui supradictam. (fol. 36r–v blank, except for some late pen-trials)
8. fol. 37, (ps.-Aristotle, *Secretum secretorum*)
9. fol. 62v, (Epistola Prudenti viro)

Bibliography: Summary description in R. Steele, *Opera hactenus inedita Rogeri Baconi* 9 (Oxford 1928) xiv.

M Marburg, Universitätsbibliothek 9. Two manuscripts bound together. The second (fols. 64–166) is of the fourteenth or fifteenth century, and is paper.

1. fol. 65, (ps.-Aristotle, *Secretum secretorum*)
2. fol. 87v, (Epistola Prudenti viro)
3. (Astrological notes) fol. 88v, Nota quod duodecim sunt signa, primum dicitur Aries . . . ; (lacuna in MS; fol. 89, the end of a devotional work); fol. 89v, In vere omnia innovantur . . . (also in London, British Library Arundel 251 and Munich Clm. 13076; Thorndike and Kibre 720); fol. 92, Aries: Nil capiti facias Aries cum Luna refulget (see above, P, fol. 1v); fol. 92v, Signum Arietis quod (m)artius bonum est viam proficisci . . . ; fol. 94, Signum Marcii signum Arietis est. Puer qui natus fuerit (work breaks off; lacuna in MS)

4. fol. 95, (ps.-Aristotle), De pomo, (translated by, or on the initiative of, Manfred, son of Frederick II): Cum clausa esset via veritatis . . . (for edition see Thorndike and Kibre 286)
5. fol. 98v, Epistola Theodori philosophi ad imperatorem Fridericum (ed. Sudhoff (n. 1 above) 4-7): Celsitudo vestra precepit, ut de conservanda sanitate . . . quod fuerit expellendum.
6. fol. 99v, Phisinomia (sic) Loxi medici (ed. R. Förster, *Scriptores physiognomnici* 2 (Leipzig 1893) 1-145; ed. and trans. J. André, *Anonyme latin traité de Physiognomonie* (Paris 1981)): Ex tribus auctoritatibus quas pre manu habui . . . prope modum consecuti sumus exemplo (incomplete)
7. fol. 107v, Pillule mirabilis operationis quas composuit frater Albertus Theotonichus (Albertus Magnus) pro papa Gregorio.
8. fol. 107v, Friderici Rogeri Romanorum imperatoris et semper augusti de Regimine et via itineris et fine peregrinancium (by Adam of Cremona, ed. F. Höninger, "Ärztliche Verhaltungsmassregeln auf dem Heerzug ins Heilige Land für Kaiser Friedrich II., geschrieben von Adam v. Cremona (ca. 1227)," *Med. diss.* (Borna-Leipzig 1913)): Cum necessarium sit . . . largitor omnium bonorum qui vivit.
9. fol. 131, Nomina et virtutes balneorum (Pietro da Eboli, *De balneis puteolanis*; see Thorndike and Kibre 769): Interopes operum . . . lesis conceditur perfectio sanitatis. Amen.
10. fol. 137v, (astrology, in German)
11. fol. 139, (ps.-Albertus Magnus) Secretum mulierum (cf. E. Wickersheimer, *Henri de Saxe et le "De secretis mulierum,"* (Antwerp 1923)): Sanctissimo in Christo socio. Primo determinat de generatione . . .
12. fol. 147, (ps.-Aristotle, *Phisionomia*, translated by Bartholomaeus of Messina on the command of Manfred, son of Frederick II; ed. Förster, *Scriptores physiognomnici* 1.5-91): Quoniam autem et anime sequuntur corpora et ipse secundum seipsas . . .
13. fol. 152, Aristotle, De bona fortuna: Habitum autem . . . (translated by Bartholomaeus of Messina, under the emperor Manfred; see A. Birkenmajer, "Classement des ouvrages attribués à Aristote," repr. in *Studia copernicana* 1 (Breslau 1970) 60, and G. Lacombe, *Aristoteles latinus* 1 (Rome 1939) 72-73)
14. fol. 153v, (Gundissalinus) De unitate et uno (ed. P. Correns, *Beiträge zur Geschichte der Philosophie des Mittelalters* 1 (Münster 1891)): Unitas est qua unaquaeque res dicitur una . . .
15. fol. 154v, Libellus de Secundo phylosopho: Fertur quod Secundus phylosophus fuit homo phylosophatus Athenis . . . et intitulari (Differs from the text edited by A. Hilka (*Das Leben und die Sentenzen des Philosophen Secundus*, 88. Jahresbericht der schlesischen Gesellschaft für vaterländische Cultur, Abt. 4 [Breslau 1910]) who does not refer to this MS in his list of Latin MSS on p. 6)
16. fol. 156, De mutuis epistolis Alexandri et Didimi regis Bracmanorum: Alex-

ander, ut legitur, cum ultimum litus Oceani . . . conversacio in celis est (An unidentified version of the dialogue between Alexander and the Brahman)

17. fol. 159, Liber Platonis in Thymeo (ed. J. H. Waszink, *Timaeus a Calcidio translatus* (London 1962)): Socrates in exortationibus sui . . . ad minorem perspicio.

Bibliography: G. Lacombe, *Aristoteles latinus* 1 (Rome 1939) 716–717; K. F. Hermann, *Catalogus codicum manuscriptorum qui in Bibliotheca Academica Marburgensi asservantur latinorum* (Marburg 1838) 5–7; Haussherr (n. 37 above) 651.

Critical edition of Epistola Prudenti viro

The following edition uses the earliest manuscript—Munich, Clm. 2574b (C)— * as the base text. The orthography of C is kept, but manifest errors are corrected from other manuscripts, from which, too, the lacunae in C, caused by the rubbing away of the thirteenth-century paper, are filled. Full textual variants, including orthographic variants of the proper names, are given in the case of MSS Vienna, ÖNB 512 (V) and Paris, BN lat. 6978 (P). Variants from Marburg, UB 9 are given only for those first few sentences which Sudhoff transcribes (see n. 1 above). The various forms of the names of the twenty-four kings are separated from the main apparatus and compared in tabular form with those in the Apocalypse of the ps.-Methodius (edited by Sackur; see n. 7 above), and in the version of the Romance of Alexander known as *Historia de preliis* I³ (ed. K. Steffens [Meisenheim 1975]).

C73v Prudenti viro amico suo karissimo Theodoro invictissimi Cesaris filosofo, Alkindus Alcalif de Baldac sacerdos et philosophus, salutem in Omnipotente.

Nosse cupiens diversitates hominum et linguarum adcessi personaliter ad gentes ferocissimas quasi mercator, inter quas inveni multos Latinos ab illis
5 gentibus subiugatos, qui michi libros barbaros et Latinos de futuris mirabiles ostenderunt. De quibus excepi quedam que vidi et legi patentia per effectum, que in presenti pagina prudentie vestre transmittito.

Macedum rex Alexander devictis gentibus in partibus orientis, gentes aspectu terribiles, gustu fetidas, actibus abhorrendas, sibi pocius divina quam
10 humana potencia subiugavit. Alexander enim pugnaturus cum eis, reperit multa genera preliandi; agroticanes in prelio preponebant, ut milites Alex-

VC *no title*; Epistola missa Theodori (*sic*) philosopho imperatoris Friderici M (Epistola missa Theodoro philosopho imperatoris Friderici M *in marg.*); Incipit epistola Alkindi achalif, de baldac philosophi P 1 filosofo] philippo P 2 Alkindis V, Alkind⁹ P, Alkendars M Alkalif V, alkadif M Badach V filosofus] -phie M omnipotencie V 3 personaliter] persarum P 4 ferocissimas] -mos P Latinos] M *om.* V *add. et post* Latinos 5 subiugatos] M *om.* PM *transp.* mir. de fut. 6 vidi et] M *om.* 7 prudentie] presencie P vestre] tue P 8 Macedum] *sic* VPC orientis] occidentis M gentes] M *om.* 9 pocius] paci M 9–10 P *transp.* po. quam hu. 11 agroti canes P, atroci canes M prelio] plurimus M preponebar PM

andri fessi, armis onerati, contra homines pugnare non possent. Quibus Alexander porcos dedit, ut cum hominibus preliari valeret. Inter alia vidit multitudinem innumerabilem, armis de coriis coctis [indutis] indutam, arcubus et sagittis habilem, in dromedariis et camelis, ducentes plurimos elefantes, et homines sunt habentes capita canina; quidam monoculi, unum oculum magnum habentes in fronte; alii monopedes qui uno fulti pede, cum iacent, umbram sibi pede faciunt, ipsum pro tugurio preponentes. Quidam etiam caput infra spatulas habent, et os in pectore et oculi in eorum cervicibus videantur, qui Tartari nuncupantur, sed ipsi depressa capita portant, non tantum qui preliari nituntur. Hii beluas manticoras secum habent, qui facie hominis, corpore et pedibus leonis, cauda scorpionis, dentium ordine triplici sunt compacte, vescentes carnes hominum et ferinas. Ipse autem gentes non solum herbas et arbores sed etiam lapides conterebant.

Hoc providens Alexander, fatatus ut numquam deberet amittere bellum, invenit artem in mille speculis ferreis absinthicis versus solem in conspectu hostium elevatis, unumquodque speculum absinthicum—id est de genere ferri indanico—bene tersum erat et splendens igneos iaciens radios centum cubitorum ante se, ad decem miliaria succendebat, et sic castra et homines, animalia et vestes per ipsam artem inspectivam speculorum omnino conbuscit, et devictis hostibus triumphavit.

Remanserunt autem .xxii. reges quorum unusquisque octingentos duces habebat et quilibet dux centum milia pugnatorum. Quos respiciens victor Alexander ingratos omnibus, bonis moribus adversantes, cum eis participare recusans, eos in valle Caspia congregari precepit et, in celum intuens, suum exoravit suppliciter creatorem ut gentes tam fetide montibus Caspio et Caucasoe Aquilonis uberibus clauderentur. Quem Omnipotens Deus exaudivit, montes concludens, relictis/passibus .xv. Quos passus Alexander artificiose valvis eneis absinthico et lapidibus adaptavit, ut ipsi <non> egredi et nullus ad eos transire valeret. Ipse autem ianue tam abscondite permanebant ut ferro incidi, igne dissolvi, vel qualibet astutia nequeant aperiri. Reclusi itaque fuerunt .xxii. reges quorum quilibet habebat octingentos duces, et quilibet dux centum milia pugnatorum. Inter quos sunt duo reges principales—Gog, qui gladio pugnat, et Magog, qui precipit, maledicit et benedicit.

13 valerent P 14 indutis indutam VC 15 ducentes] durantes V 16 P *transp.* cap.hab. 17 V *add.* capitis *ante* fronte 18 V *transp.* fac. pede turgio P 19 scapulas V 21 facie *conteci*, faciem VPC 26 absinthicis VP 27 absinthicum VP 28 indanico V, indicii P et bene tersi et purgati et splendenti (*lacuna*) igneos iacentis P 29 P *add.* et *ante* ad P *om.* et *post* castra 30 animalia] et alia P omnino V *om.* 32 autem] P *om.* 33 milia] V *om.* 34 ingratos] ingentes C omnibus] hominibus V 35 recusans] P *om.* capsia P 35–36 P. *transp.* ex. suum 36 gens P fodide V, ferida P capsio P 36–37 Chaucaso V 38 montem P 39 absinthico V non *addidi*; nullus in *ras.* et ipsi *supra lineam* in C 40 valeat V 41 qualibet] alia P 42 duces] V *om.*

- 45 Primus rex de .xxii. vocatur Anogig, cuius gens habet homines machoras .xii. cubitorum longos, qui cum grifibus preliantur. Secundus rex est Agem habens Agrotos et Bramatos, qui vitam huius mundi dantes Deo se in ignem mittunt alterius vite amore. Tertius rex est Canenazten, habens Cenocefalos, qui capita canina et humana corpora gerunt. Quartus rex est Depar, habens
- 50 Tervelles qui parentes iam senio confectos mactant pariter et manducant, et qui hoc facere contempnit apud eos impius iudicatur. Quintus rex est Apodineyr habens Adrios, qui pisces crudos comedunt, et mare salsum bibunt. Sextus rex est Libius habens Planios, qui digitos octo in manibus et octo in pedibus habent. Septimus rex est Limius, habens Arismaspos, unum oculum
- 55 in fronte gerentes. Octavus rex est Parizeus, habens monopedes, qui uno pede fulti, cum iacent, umbram sibi pede faciunt, ipso se pro tugurio protegentes. Nonus rex est Declerius, Acapitos habens, qui absque collo sunt, pilosi, habentes oculos, nasum et os in pectore. Decimus rex est Zarmenus, habens Bri-vos et Satiros, qui habent caput cornutum ut yrcus, pectus ut homo, corpus,
- 60 coxas et pedes ut yrcus. Undecimus rex est Tebleus, habens centauros qui caput et pectus habent humanum, corpus autem equinum. Duodecimus rex est Carmacius, habens Bilbios, qui carnibus crudis vescuntur. Apud quos serpentes sunt tam magni ut cervos devorent. Terdecimus rex est Calconus, habens Cinochos, apud quos est belua Centrocota, corpus habens asini, pectus et crura leonis. Quartus decimus rex est Amardeus, habens Dandalos, apud quos est Crima bestia cuius pedes sunt elephantis, maxilla apri, cornua duorum cubitorum, quorum uno pugnat, alterum vero reflectit. Quintus decimus rex est Grimardius, habens Eltios et Aniros, gerentes caput hominis, corpus leonis et elephantis. Sextus decimus rex est Anafagius, habens Mardangos nigros, apud quos est belua Manticora, faciem habens hominis, triplicem in dentibus ordinem, corpus et crura leonis, caudam scorpionis, et oculos sanguineos; cuius vox est sibilus, fingens discrimina vocum, vescens carnes humanas et ferinas, cursu velocissima. Septimus decimus rex est Anafagius habens Alfa/razos, quorum capita sunt equina, gaudentes arcubus et sagittis.
- C74v 75 Octavus decimus rex est Alaneos, habens Milvios, quorum capita sunt milvorum, pedes grifum, qui validi pugnatore alii preponuntur. Nonus decimus rex est Tarabus, habens viros moribus reverendos, nimium diligentes, qui nil prospiciunt, quid faciant pro amicorum amore. Vicesimus rex est Fi-

45 macoras P 46 grifibus] gressibus P 47 Deo] V om. 48 cenocephalos VP 50 Cervelles V
 52 Adzyos V 53 Plamos VP 53–54 qui digitos octo in manibus habent, et in pedibus similiter
 octo pedicas habent V 57 agapithos P P *transp.* ha. Ac. 57–58 habentes] CV om.; P *add. inter
 lineas* 59 sarmos P P *transp.* cap. cor. hab. hyrcus V corpus P om. 60 hircus V 61 V *transp.*
 hum. hab. autem P om. 62 biblios P 62–63 V *transp.* sunt ser. 63 P *transp.* rex e. 64 cynochos
 V, cinotos P centrocata V 65 P *transp.* e. rex est Com. dandalos V 66 cuma P 67 pugnant
 VP reflectunt V, flectunt P 68 helcios P eniros V, viros P 70 hominis] VP om. 71 et] P om.
ante oculos 72 fingens] P om. P *add.* frangens *post* vocum 73 P *transp.* rex e. 74 ...]razos C,
 alfarasos V, alcharazos P 75 sunt] V om. 78 quod C, quem V V *add.* dilectione et *ante* amore

lonicius, habens Glocios, qui facies habent hominum et corpora tauri, apud
 80 quos est bestia Monoceros, cuius corpus est equi, pedes elephantis, caput cervi,
 habens unum cornu in medio fronte splendens et acutum. Vicesimus primus
 rex est Artineus, habens Lellos, apud quos est bestia Claros mugiens ut bos,
 que cornu ferreum transverberat, sola fovea capitur, nullatenus edomatur.
 Vicesimus secundus rex est Saltarius, habens Sirenos, qui cantu faciunt alios
 85 dormire et, cum vadunt, motu pedum et manuum etiam sine voce cantare
 videntur pariter et saltare.

Reges autem et maiores sunt de genere Ysmahelis, qui dicuntur Tartari de
 Gog et Magog. Iohannes in Apocalipsi dicit quod in novissimis temporibus
 propter peccata populorum solventur Gog et Magog et preoccupabunt ter-
 90 ram. Item alia scriptura: Venient Ysmahelite et possidebunt sanctuarium
 Dei. Unde, cum multa genera bestiarum cum ipsis fuissent inclusa, vulpes
 non fuerunt incluse, vulpes pessima conata fodere montem, venit ad illos.
 Quam quasi pro miraculo intuentes, venerunt post illam usque ad portas, et,
 viso exitu, per divinam potentiam valvas, absinticum et lapides contrive-
 95 runt, exeuntes cum armis, que fabricaverant crudelia dum in montibus ha-
 bitarent.

Videns Deus quod omnis esset tantummodo caro, et unusquisque querat
 que sunt sua, non que Dei, et quod fetor peccatorum celum tetigerit, terram
 quasi aream proposuit expurgare. Sapiens enim est sine operibus bonis, senex
 100 sine religione mentis, adolescens sine obedientia seniorum, dives sine ele-
 mosina et ospitalitate, femina sine pudicitia, religiosus sine humilitate,
 contentiosus in verbis. Pauper sine servicio, arrogans et elatus, rex sine Dei
 amore, cupidus et avarus, episcopus sine regula, negligens in doctrina, iudex
 invidus et iniquus, plebs usuraria sine disciplina, populus in provincia sine
 105 lege vel fide. Hinc est, amice karissime, quod gens illa crudelis iam faciem
 terre incipit occupare in tribus exercitibus dispersita.

79 glofos P 81 medio *corr. ex media* C; media P splendes C 83 que] qui V, P *om.* 84 syrenos
 V, sirens P 85 dormire P 87 et] P *om.* hymaet P 90 ysmaelite P 91 domini P Unde]
 nostre P 92 volpis P 94 valvas] P *om.* . absinthycum V 95 fabricaverunt V 97 V *add.* homo
post omnis 99 expugnare P; M *desinit* 102 contempciosus P 103–104 negligens . . iniquus P
om. 105 vel] et V amice] V *om.* P *transp.* illa gens 106 Explicit epistola alkindi achalif de
 baldach philosophi P

THE TWENTY-TWO TARTAR KINGS SHUT UP BEHIND THE CASPIAN GATES

M	V	P	<i>Ps.-Methodius</i> c. 8, p. 74f.	<i>Historia de preliis</i> I ³ , 113a, p. 174
Gog	Gog	Gog	1. Gog	1. Gog
Magog	Magog	Magog	2. Magog	2. Magog
1. Anogig	Anogig	Amogig	3. Anog	—
2. Agem	Agem	Aget	4. Ageg	3. Agetani
3. Canenazten	Canenazten	Canenacen	5. Achennaz	(4. Mageen)
4. Depar	Depar (<i>sup.</i> Dephar)	Dapar	6. Dephar	(5. Oleatar)
5. Apodineyr	Apðmeir (<i>in marg.</i> Apodmeir)	Apodimeyr	7. Potinei	6. Apodinei
6. Libius	Libius	Libius	8. Libii	7. Luvii
7. Limius	Lymius	Limius	9. Eunii	8. Iunii
8. Parizeus	Parizeus	P(a)rizeus	10. Pharizei	(9. Rancei)
9. Declerius	Declerius	Declerius	11. Declemi	10. Decleni
10. Zarmenus	Zarmenus	Sarmetius	12. Zarmatae	11. Camarte
11. Tebleus	Tebleus	Celebeus	13. Theblei	12. Tallei
12. Carmacius	Carmatius	Caroneius	14. Zamartiani	13. Camartiani
13. Calconus	Calconus	Calconus	15. Chachonii	14. Chacomii
14. Amardeus	Amordeus	Amardeus	16. Amazarthe	15. Armade
15. Grimardius	Grimardius	G(ra)nardus	17. Agrimardii	(Grimardi)
16. Anafagius	Anatagius	Anafagius	18. Anuphagii qui dicuntur Cynocephali	16. Anafragi, qui dicuntur Kinocephali
17. Anafagius	Anafagius	Anafagius	—	—
18. Alaneos	Alaneos	Aluens	20. Alanes	18. Alanis
19. Tarabus	Tharabus	Carabus	19. Tharbei	17. Tarbei
20. Filonicus	Filonicius	Philomicus	21. Phisolonicii	19. Philonis
21. Artineus	Artineus	Avartineus	22. Arcnei	20. Artinei
22. Saltarius	Saltarius	Saltarius	23. Asalturii	21. Sartinei
				22. Saltari

ADDENDA ET CORRIGENDA

II p. 134: Abū Ma'shar, *Isagoge minor*. This text has now been edited alongside the Arabic original in Abū Ma'sar, *The Abbreviation of the Introduction to Astrology Together with the Medieval Latin Translation of Adelard of Bath*, ed. and transl. C. Burnett, K. Yamamoto and M. Yano, Leiden, 1994. Here it is shown that the translations of Adelard are not quite so literal as implied in this article.

II p. 137: *astronodia* can also be found in Raoul de Longchamp's commentary on Alain de Lille's *Anticlaudianus*, ed. Sulowski, Wroclaw etc., 1972, p. 66. Raoul may be indebted to *Ut testatur Ergaphalau* since he also refers to the divisions of astrology 'fabulosa, historialis, onomica' and 'imaginaria' (ibid., p. 212).

II p. 144, right-hand column, line -18: 'aut in fortuna conservat'.

III p. 86, line -11: the Arabic words should be 'uṣṭuquṣṣun' and 'maghnatīṣ'.

III, p. 90: another manuscript of Pseudo-Aristotle, *De Luna*, is British Library, Add. 10775, fols 329–30v.

IV p. 1047, line 6: it is now established that the correct form of the archbishop's name is Gonzalo Pérez Gudiel; see the studies of Peter Linehan and J. Hernández, e.g., "'Animadverto": a Recently Discovered *Consilium* Concerning the Sanctity of King Louis IX', *Revue Mabillon*, n.s. 5, 1994, pp. 83–105.

IV p. 1048, line -9: the work of Abū Ma'shar is not his *Great Introduction to Astrology*, but his *On the Great Conjunctions* (*De magnis coniunctionibus*).

IV p. 1050, line 11: note that *The Sufficiency* is the English translation of the *Latin* title applied to Avicenna's *Shifā'*—*Sufficiencia*, which is not a translation of the Arabic title (which means 'Cure') but may be a quasi-transliteration or erroneous expansion of the Arabic title.

IV p. 1054, n. 85: a revised version of this article is published as 'European Knowledge of Arabic Texts Referring to Music: Some New Material', *Early Music History*, 12, 1993, pp. 1–17.

V A further possible reference (as ‘liber centenariorum’) to Abū Ma‘-shar’s *Kitāb al-ulūf* in the Latin West is in Aegidius de Tebaldis’s translation of ‘Alī b. Riḍwān’s commentary on Ptolemy’s *Quadripartitum*, I, chapter 2 (ed. Venice, 1493, fol. 4 corrected from MS British Library, Royal 12.F.VII, fol. 11rb): ‘Vidi enim ex illis qui studebant in libris miliariorum et centenariorum et denariorum et credebant certum et verum esse quicquid locutus fuit ibi Albumasar et similes, et voluerunt hec experiri in rebus preteritis, et ibi nullam certitudinem invenerunt. Et ego dixi eis: magnum mirum est de vobis qui dimittitis inspicere motus stellarum et coniunctiones magnas, et vultis scire ea quae futura sunt per numerum annorum’ (printed edition cited by M. Steinschneider in ‘Zur Geschichte der Uebersetzungen aus dem Indischen ins Arabische’, *Zeitschrift der Deutschen Morgenländgesellschaft*, 24, 1870, p. 385).

VI p. 168: a similar confusion of ‘Medi’ and ‘Egypti’ (perhaps arising from the aural similarity of the Arabic for Egypt—Miṣr—and ‘Med-’) occurs in Adelard of Bath’s translation of the *Abbreviation of the Introduction* (see Add. II above).

VIII. For another use of runes for summoning spirits see Hartmut Beckers, ‘Eine spätmittelalterliche deutsche Anlietung zur Teufelsbeschwörung mit Runenschriftverwendung’, *Zeitschrift für deutsches Altertum und deutsche Literatur*, 113, 1984, pp. 136–45. Here too key words are transliterated into runes.

VIII, p. 419, line -6: for ‘fourteenth-century’ read ‘fifteenth-century’.

X p. 192: in sentence 2 of the text ‘(middle line)’ should read ‘(higher line)’.

X p. 195, last sentence: **58** Hidden things will be discussed elsewhere.

XI p. 143, line -5: the work in progress has now been published as *The Eadwine Psalter*, eds M. Gibson, T. A. Heslop and R. W. Pfaff, London, 1992; see pp. 165–7 for a summary of articles X and XI in this volume.

XI p. 147, n. 21: note that the subjects that Roger Bacon claims have been censored from the *Secretum secretorum* are exactly those of the *kitāb al-Iṣṭamāfīs* and its siblings.

XI p. 166: in the sixth column, headed *Poridat de la Poridades*, the number-letter equivalents given here are of the Catalan version printed as an Appendix to Ll. A. Kasten, *Seudo Aristóteles Poridat de las Poridades*, Madrid, 1957, pp. 92–3, and not of the Spanish version printed as the main text in Kasten’s work, pp. 59–61. The Spanish number-letter

equivalents differ from the Catalan only in the following cases: C = 24, F = 4, L = 12, O = 8, Q = 13, R = 16, X = 16, Z = 4.

XI. Further examples of 'The Victorious and Vanquished' can be found in the following manuscripts:

A. The Greek tradition of the 'Victorious and Vanquished' is condemned by Hippolytus, bishop of Rome (d. 235), who gives a detailed account of the procedure in *Refutatio omnium haeresium*, IV. 14, using the examples of Ajax and Hector, Alexander and Menelaus, Amycus and Polydeuces, Ajax and Odysseus, Achilles and Asteropaeus, and Menelaus and Euphorbus, and describes the divisions by 9 and those by 7. There are no tables, but the procedure is summarised as 'When one number is odd, the other one even, the odd number wins, if it is larger. If the two numbers are both odd or both even, the lower number wins.' The table of victorious and defeated numbers also occurs in MS Athens, Historical Society, 211, but in connection with questions concerning the relationship between a man and wife (περί γάμου), and is printed by A. Delatte in *Anecdota Atheniensia*, 2 vols, Liège and Paris, 1927, I, pp.132–5.

B. Further manuscripts of the Arabic version of the Victorious and the Vanquished can be found in A. Badawi, *La Transmission de la philosophie grecque au monde arabe*, 2nd ed., Paris, 1987, p. 102.

G. *Latin* 8. British Library, Harley 267, fol. 227.

H. *English* 10. British Library, Harley 1375, fol. 36v (I owe this and the preceding reference to Linda Voigts).

J. Finally it occurs in the *Livre de Sidrac* in at least the French version (British Library, Add. 17914, section 958 in the edition of E. Ruhe, in preparation).

XIII p. 38, n. 36: *al-thaghr* was the usual term for the frontier region between Muslim-controlled and Christian-controlled Spain.

XIII p. 39: the manuscripts on scapulimancy in Arabic listed by Sezgin as being by al-Kindī are Istanbul, Şehit Ali Paşa 1812, Nuruosmaniye 2840, Bursa, Hüs. Çelebi 882/5, Tunis, Aḥmad. 5608 and Baghdad, Maṭḥaf 1489. Of these, the first two share the same text, while the Nuruosmaniye repeats a section from this text, attributing it to Hermes, and Tunis, Bibliothèque nationale 18848 (from the Ḥ. Husnī 'Abdalwahhab collection) has another fragment of the same text. In addition, M. Ullmann (*Die Natur- und Geheimwissenschaften im Islam*, Leiden, 1972, p. 381) refers to MS Cairo, Ṭal'at 406 majāmi' as containing a text on the